STATE OF CALIFORNIA

STANDARD AGREEMENT

STD 213 (Rev 06/03)

AGREEMENT NUMBER
C19-032
REGISTRATION NUMBER

1. This Agreement is entered into between the State Agency and the Contractor named below:

STATE AGENCY'S NAME
Emergency Medical Services Authority (EMSA)

CONTRACTOR'S NAME
County of San Mateo

2. The term of this Agreement is: November 1, 2019 through September 30, 2021

3. The maximum amount of this Agreement is: **$1,500,000.00** (One Million Five Hundred Thousand Dollars and No Cents)

4. The parties agree to comply with the terms and conditions of the following exhibits which are by this reference made a part of the Agreement.

Exhibit A – Scope of Work	6 pages
Exhibit B – Budget Detail and Payment Provisions	2 pages
Exhibit B, Attachment I – Milestone Budget Detail	4 pages
Exhibit C* – General Terms and Conditions (GTC 610)	
Exhibit D – Special Terms and Conditions	3 pages
Exhibit E – Participants Matrix	2 pages
Exhibit F – Project Timeline Detail	5 pages
Exhibit G – Sample Invoice	2 pages
Exhibit H – Contractors GFO Responses for +EMS SAFR	53 pages

Items shown with an Asterisk (*), are hereby incorporated by reference and made part of this agreement as if attached hereto. These documents can be viewed at https://www.dgs.ca.gov/OLS/Resources/Page-Content/Office-of-Legal-Services-Resources-List-Folder/Standard-Contract-Language

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CONTRACTOR

CONTRACTOR'S NAME *(if other than an individual, state whether a corporation, partnership, etc.)*
County of San Mateo

BY *(Authorized Signature)* | DATE SIGNED *(Do not type)*

PRINTED NAME AND TITLE OF PERSON SIGNING
Carole Groom, President, Board of Supervisors

ADDRESS
801 Gateway Blvd., Ste. 200
South San Francisco, CA 94080

STATE OF CALIFORNIA

AGENCY NAME
Emergency Medical Services Authority (EMSA)

BY *(Authorized Signature)* | DATE SIGNED *(Do not type)*

PRINTED NAME AND TITLE OF PERSON SIGNING
Daniel R. Smiley, Chief Deputy Director

ADDRESS
10901 Gold Center Drive, Suite 400
Rancho Cordova, CA 95670-6073

California Department of General Services Use Only

☒ Exempt per: SCM Vol 1,3.15

EXHIBIT A

SCOPE OF WORK

1. The Contractor shall provide and implement a locally-based, electronic patient lookup system for emergency ambulance providers and establish secure, bidirectional movement of electronic patient health information with hospitals for daily emergency medical services called +Emergency Medical Services Search Alert File and Reconcile (+EMS SAFR) to the Emergency Medical Services Authority (EMSA) as described herein.
2. The Contractor shall perform services at:

   County of San Mateo Emergency Medical Service Agency
   801 Gateway Blvd., Suite 200
   South San Francisco, CA 94080
3. The term of this agreement shall be November 1, 2019 through September 30, 2021.
4. The Contractor shall provide services between 8:00 a.m. and 5:30 p.m., Pacific Standard Time, Monday through Friday, excluding State and Federal holidays.
5. The project representatives during the term of this agreement shall be:

State Agency	Emergency Medical Services Authority
Section/Unit	HIE
Attention	Leslie Witten-Rood, Project Manager
Address	10901 Gold Center Dr, Ste 400 Rancho Cordova, CA 95670-6073
Phone	916 296-2236
E-Mail	HIE.EMS@emsa.ca.gov

Contractor	County of San Mateo
Name	Travis Kusman, MPH, Paramedic Director, Emergency Medical Services Agency
Phone	650-304-4837
E-Mail	tkusman@smcgov.org

Direct all administrative inquiries to:

State Agency	Emergency Medical Services Authority
Section/Unit	Administration Unit
Attention	Yolanda D. Jackson, Contract Analyst
Address	10901 Gold Center Dr, Ste 400 Rancho Cordova, CA 95670-6073
Phone	916-431-3694
E-Mail	yolanda.jackson@emsa.ca.gov

Contractor	County of San Mateo
Section/Unit	Emergency Medical Services Agency
Attention	Garrett Fahay, MBA
Address	801 Gateway Blvd., Ste.200 South San Francisco, CA 94080
Phone	650-573-2009
Email	gfahey@smcgov.org

6. **Project Summary**

The Contractor shall develop and implement a locally based electronic patient lookup system for daily emergency medical services called +Emergency Medical Services Search Alert File and Reconcile (+EMS SAFR). The integration and onboarding of +EMS SAFR allows interoperable health information exchange between Emergency Medical Services (EMS) providers and hospitals via Regional Health Information Organizations (HIOs). EMS providers and hospitals participating are both Medi-Cal Providers and covered entities that have electronic patient health information. The Transmission of Treatment, Payment, and Operations (TPO) information between covered entities, about a specific patient, is allowed under HIPAA and the California Health and Safety Code. The funds will be used to develop and onboard health information technology project over two years for technology and infrastructure to give EMS providers in the field access to send and receive, find and use critical patient information to improve patient care

7. **Specifications**

A. General

The Contractor shall implement and onboard interoperable health information exchange between EMS providers and EMS Receiving Hospitals via Health Information Exchange Organizations (HIOs), for SEARCH, ALERT, FILE, and RECONCILE functionality.

B. Description of Work

The Contractor shall implement a locally-based, electronic patient lookup system for emergency ambulance providers and establish secure, bidirectional movement of electronic patient health information with hospitals for daily emergency medical services (called +EMS SAFR). This locally based system will provide four (4) functional benefits.

1. First, paramedics and EMTs on ambulances, and optionally non-transport first responders, will be able to access individual patient information relevant to an emergency case to enhance clinical decision making for individual patients.
2. Second, hospital emergency departments receiving real-time patient information through a dashboard will lead to improved clinical decision support and creating an environment where time-sensitive treatments can be expedited through advance notification, such as in the areas of trauma, chest pain, or stroke.
3. Third, the integration of electronic pre-hospital care records into the hospital Electronic Hospital Record (EHR) will allow clinical care providers in both rural and urban communities across the continuum to support a more comprehensive, longitudinal, integrated patient record for seamless transitions of care
4. Fourth, patient outcome data will be returned to EMS providers for quality and system improvement.

8. **Milestones and Metrics**

The following are measurable milestone objectives for <u>each</u> Emergency Ambulance Provider and EMS Receiving Hospital, HIO and or LEMSA listed in Exhibit B, Attachment I Milestone Budget Detail and Exhibit E, Participants Matrix.

A. Milestone 1-a Adoption Phase 1: Initiate Participation in +EMS SAFR

1. The Contractor shall contract with the Regional Health Information Organization (RHIO) that will serve as the “hub” for patient query information. Alternative “hub” functionality may serve as the methodology to achieve SEARCH functionality.
2. The Contractor shall identify the specific EMS providers and hospitals that will be on-boarded (as noted in Exhibit E, Participants Matrix and Exhibit F, Project Timeline Detail).
3. The Contractor shall develop service level agreements for health information exchange on-boarding between the RHIO and ambulance providers and hospitals.

B. Milestone 1-b Adoption Phase 2: Testing SEARCH and ALERT

The Contractor shall demonstrate successful Adoption of SEARCH and ALERT functions among all stakeholders in production. Success is defined as at least one SEARCH with a patient match, retrieval of health information for at least one matched patient, and ALERT reporting of important patient information for at least one patient on a hospital ED dashboard. The metric shall be measured per participant.

C. Milestone 2 Exchange: SEARCH and ALERT

1. The Contractor shall demonstrate SEARCH functionality with a minimum of 50% usage and 30% match success, or retrieval success, by paramedics of identified pre-hospital patients for three (3) consecutive months (measured on a monthly basis). The metric is defined as the number of times, for which a patient is searched for, and a patient is successfully identified or for which information is successfully retrieved from the RHIO or other clinical system by the ePCR, divided by the number of new patient encounters created in the ePCR during a one (1) month period. The metric shall be measured per participant.
2. The Contractor shall demonstrate ALERT functionality with a minimum of 80% usage (on patients to be transported to a defined hospital) for three (3) consecutive months (measured on a monthly basis). Success is defined as at least one (1) patient match, retrieval of health information for at least one (1) matched patient and reporting of critical patient information for at least one (1) patient in a hospital ED dashboard. The metric shall be measured per participant.

D. Milestone 3 Interoperability: FILE and RECONCILE

1. The Contractor shall demonstrate FILE functionality with a minimum of 40% usage per record (on transported patients to a defined hospital) for three (3) consecutive months (measured on a monthly basis). The metric is defined as the number of times a patient record created in the ePCR is successfully transmitted to the HIO and/or hospital EHR, matched to a patient, and incorporated as structured information. The metric shall be measured per participant.
2. The Contractor shall demonstrate RECONCILE functionality with a minimum of 40% usage per record (on transported patients) for three (3) consecutive months (measured on a monthly basis). The metric is defined as the number of times a patient record (ADT) is successfully transmitted from the hospital EHR to the ePCR, matched to a patient and encounter, and incorporated as structured information. Hospital discharge summaries also qualify and are encouraged. The metric shall be measured per participant.

E. Milestone 4 Data and Analytics Phase: Achievement Measurement

1. The Contractor shall evaluate and report usage during the (SEARCH and ALERT), and the (FILE and RECONCILE) phases on a monthly basis.
2. The Contractor shall submit prehospital data and hospital outcome information on matched patients to EMSA.
3. The Contractor shall evaluate performance measures that involve pre-hospital and hospital data elements based on the following:

   A. Outcome Measurements should be proposed by the LEMSA

   B. EMS Core Measures

   C. EMS Provider Primary Impression-Diagnosis Accuracy

   D. EMT Provider Primary Impression Treatment Protocol Compliance
4. The contractor shall prepare and submit to EMSA a final report documenting the project objectives, milestones, and overall accomplishments will be due to EMSA by August 30, 2021. EMSA will provide the contractor with a final report template by June 30, 2021.
5. The contractor shall prepare and submit to EMSA a Final Invoice received no later than 30 days after services have been rendered.

Health Information Technology for EMS+EMS Metrics Summary

Type	Measurements	Threshold
STRUCTURE (Adoption)	Connections Made (Adoption) • % Emergency Ambulance Providers • % of EMS Receiving Hospitals • HIE/HIO Connected (for SEARCH Query)	80% 80% Yes

PROCESS (Exchange and Interoperability)	Search (Exchange)**
	• % Usage
	• % Patient Match
	• % CCD Returned
	• POLST Record Returned
	  ○ EMS
	  ○ Hospital
	Alert (Exchange)
	• % Usage Dashboard Display
	• Evaluate Drug-Drug and Drug-Allergy interactions (by Hospital)
	File (Interoperability)
	• % Records Filed in Structured Format
	Reconcile (Interoperability)
	• % Records (ADT and hospital discharge summaries) returned to ePCR System
		50%
		30%
		--
		--
		HIE MU Stage 3 (M3) 80% Required
		Clinical Decision Support MU Stage 3 (M2)
		HIE MU Stage 3 (M2) 40% Required
		40%

OUTCOME	% Primary Impression – Diagnosis Agreement (ADT-DG1 segments where PV2-12 = "E" (Consider Over Triage and Under Triage components) • Trauma • Heart Attack/STEMI • Stroke • Sepsis • Diabetic Emergency • Respiratory Distress • Other (As Proposed) % Patients Transported to ED Disposition (PV1-36) • Admitted • Discharged • Transferred % Protocol Compliance (If DG1, then test Pre-Hospital Treatment protocols) • Trauma • Heart Attack/STEMI • Stroke • Sepsis • Diabetic Emergency • Respiratory Distress • Other (As proposed) Time in Hospital • Admission Date (ADT PV1-44) • Discharge Date (ADT PV1-45) Core Measures and Dashboard for Interventions • Trauma • Heart Attack/STEMI • Stroke • Sepsis • Diabetic • Opioid Overdose • Other (As proposed)	Clinical Decision Support MU Stage 3 (M1) - 5 Measures Required

9. **Deliverables**

A. The Contractor shall achieve and report on the milestones and metrics described in the scope of work and based upon the accepted project timeline in Exhibit F.

1. During the Adoption Phase, you are entering into Service Level Agreements between ambulance, hospitals, Regional HIO, and vendors as required for your project.
2. During the Adoption Phase, demonstrate successful implementation of SEARCH and ALERT functions among all required stakeholders in production.
3. During the Exchange Phase, demonstrate successful SEARCH metrics during a three (3) month reporting period, with no less than the required success rate achieved by the final month of the reporting period.
4. During the Exchange Phase, demonstrate successful ALERT metrics during a three (3) month reporting period, with no less than the required success rate, achieved by the final month of the reporting period.
5. During the Interoperability Phase, demonstrate successful FILE metrics during a three (3) month reporting period, with no less than the required success rate, achieved by the final month of the reporting period.
6. During the Interoperability Phase, demonstrate successful RECONCILE metrics during a three (3) month reporting period, with no less than the required success rate, achieved by the final month of the reporting period.

B. The Contractor also shall provide the following additional DELIVERABLES:

1. Participation and attendance at the HIE in EMS Quarterly HIE in EMS Advisory Committee Meetings; two (2) per year are held in person, and two (2) are conducted by webinar.
2. Participation and attendance at EMSA's HIE in EMS Yearly Summit.
3. Participation and attendance at two (2) +EMS Technical Assistance trainings.
4. Monthly progress reports against the milestones and project timelines will be required and due to EMSA by the 5th of each month. EMSA will provide the contractor with a reporting template within the first 30 days after the agreement is executed.
5. A final report documenting the project objectives, implemented solution, and overall accomplishments are due to EMSA by September 30, 2021. EMSA will provide the contractor with a reporting template for the final report by June 30, 2021.
6. Invoices will be submitted to EMSA based on the milestone completed in the Milestone Detail Budget, Exhibit B, Attachment I and submitted on invoice sheet, provided by EMSA.
7. A Final invoice is due to EMSA no later than 30 days after services have been rendered.

10. **Timeline**

A. Quarter 1: November 1, 2019 – December 31, 2019 (2 Months)

B. Quarter 2: January 1, 2020 – March 31, 2020

C. Quarter 3: April 1, 2020 – June 30, 2020

D. Quarter 4: July 1, 2020 – September 30, 2020

E. Quarter 5: October 1, 2020 – December 31, 2020

F. Quarter 6: January 1, 2021 – March 31, 2021

G. Quarter 7: April 1, 2021 – June 30, 2021

H. Quarter 8: July 1, 2021 – September 30, 2021

11. **In State Travel**

    In State Travel shall not be authorized in this agreement.

12. **Out of State Travel**

    Out of State Travel shall not be authorized in this agreement.

13. **Public Relations, Marketing, Presentation on +EMS SAFR**

    EMSA must approve any press release, article, media interviews speaking engagements such as conference or workshops the contractor plans to do related to the contracted work for +EMS SAFR. Contractor must notify EMSA in writing at least ten (10) days prior to presentation or distribution for review and approval.

14. **Acceptance Criteria**

    A. It shall be the State's sole determination as to whether a deliverable has been successfully completed and acceptable to the State. There must be a signed acceptance document for each deliverable before invoices can be processed for payment.

    B. Acceptance criteria shall consist of the following:

        1. Reports on written deliverables are completed as specified and approved.
        2. All deliverables must be in a format that can be used by the State.
        3. If a deliverable is not accepted, the State shall provide the rationale in writing within five days of receipt of the deliverable or upon completion of acceptance testing period.

15. **State Responsibilities**

    A. EMSA will have responsibility for project management and grant management for the +EMS program.

    B. EMSA will provide access to business and technical documents as necessary for the Contractor to complete the tasks identified in the department's purchase document.

    C. Provide access to subject matter experts for consultation via the Statewide HIE in EMS Advisory Committee.

EXHIBIT B

BUDGET DETAIL AND PAYMENT PROVISIONS

1. INVOICING AND PAYMENT: For services satisfactorily rendered and upon receipt and approval of the invoices, the State agrees to compensate the Contractor for actual expenditures incurred in accordance with Milestone Budget Detailed in Exhibit B, Attachment I specified herein.

   Itemized invoices shall be submitted on EMSA Form 501A-HITEMS (For Sample Invoice See Exhibit G)

   The Contractor must maintain record and description of the activities they and their Subcontractor have invoiced EMSA for; this includes the staff hours allocated to those activities, the locations where work was performed, the expenses claimed, and any required reports. The supporting documentation for claimed invoices shall be maintained with the Contractor and viewable if requested by EMSA, DHCS, or CMS

   Invoices shall be submitted to:

   Emergency Medical Authority Services
   Attn: Yolanda D. Jackson
   Agreement Number:C19-032
   10901 Gold Center Drive, Suite 400
   Rancho Cordova, CA 95670

   Final Invoices must be submitted no later than 30 days after services have been rendered.

   Milestone Progress Payments are allowed for services performed under this agreement, not less than ten (10) percent of the agreement amount shall be withheld pending completion of the agreement, and receipt and acceptance by EMS Authority of any final reports required under the agreement. Payment will be based on the completion of achievement measurement as identified in the Milestone Budget Detail, Exhibit B Attachment I. If the EMS Authority does not approve the invoice in accordance with identified milestone budget or deliverables in this agreement, payment of the invoice will be withheld by the EMS Authority, and the Contractor will be notified. The Contractor must take timely and appropriate measures to correct or remedy the reason(s) for non-acceptance and demonstrate to the EMS Authority that the Contractor has successfully completed the scheduled work for each milestone, general task or deliverable before payment will be made.

2. BUDGET CONTINGENCY CLAUSE: It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, the State shall have no liability to pay any funds whatsoever to the Contractor or to furnish any other considerations under this Agreement and the Contractor shall not be obligated to perform any provisions of this Agreement.

   If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, the State shall have the option to either: cancel this Agreement with no liability occurring to the State, or offer an Agreement Amendment to the Contractor to reflect the reduced amount.

3. PROMPT PAYMENT CLAUSE: Payment will be made in accordance with and within the time specified in Government Code, Chapter 4.5 (commencing with Section 927).

4. TAXES: The State of California is exempt from Federal Excise Taxes, and no payment will be made for any taxes levied on employees' wages. The State will pay for any applicable State of California or other State's local sales or use taxes on the services rendered or equipment or parts supplied pursuant to this contract. California may pay any applicable sales or use tax imposed by another state.

5. BUDGET TABLE: (For Budget Detail See Exhibit B, Attachment I– Milestone Budget Detail):

Milestone Budget by Geographic Region

	Milestone 1-a	**Milestone 1-b**	**Milestone 2**	**Milestone 3**	**Milestone 4**	**Total**
	Adoption Phase 1: Initiate Participation in +EMS SAFR Up to 30% of Total Award	Adoption Phase 2: Testing Up to 20% of Total Award	Exchange Up to 15% of Total Award	Interoperability Up to 15% of Total Award	Data Analytics Up to 20% of Total Award	Completed Milestones
San Mateo County	$450,000.00	$300,000.00	$225,000.00	$225,000.00	$300,000.00	$1,500,000.00
					Grant Total	$1,500,000.00

6. STATE FISCAL YEAR BREAKDOWN:

Fiscal Year	**Total Estimated Cost per Year**
FY 19/20 (November 1, 2019 - June 30, 2020)	$1,350,000.00
FY 20/21 (July 1, 2020 – June 30, 2021)	$150,000.00
FY 21/22 (July 1, 2021 - September 30, 2021)	$0.00
Total Agreement Amount	$1,500,000.00

Milestone Budget Detail

Grant Award Amount of $1,500,000

Milestone 1-a	Milestone 1-b	Milestone 2	Milestone 3	Milestone 4
Adoption Phase 1: Initiate Participation in +EMS SAFR	Adoption Phase 2: Testing	Exchange	Interoperability	Data Analytics
Up to 30% of Total Award $450,000	Up to 20% of Total Award $ 300,000	Up to 15% of Total Award $ 225,000	Up to 15% of Total Award $ 225,000	Up to 20% of Total Award $300,000

	Milestone 1-a Adoption Phase 1 : Initiate Participation in +EMS SAFR **Funding: up to 30% of Total Award:**
	Description: Adoption Phase 1 : Initiate Participation in +EMS SAFR
	Achievement Measurement: • Contract with RHIO that will serve as the HUB for patient query information. Hub may serve as the functionally to achieve search. • Identify EMS Providers and Hospitals that will onboard and are listed in Exhibit E.
	Up to 30% of Total Award = $450,000
EMS Providers	**Category Maximum $180,000 Develop Service level agreements for HIE on-boarding:** • $90,000 Providers Name: American Medical Response (AMR) • $90,000 Providers Name: South San Francisco Fire Department
Hospitals	**Category Maximum $ 180,000 Develop Service level agreements for HIE on-boarding:** • $ 36,000 Providers Name: Mills-Peninsula Medical Center • $ 36,000 Providers Name: Stanford Medical Center • $ 36,000 Providers Name: Sequoia Hospital • $ 36,000 Providers Name: San Mateo County Medical Center • $ 36,000 Providers Name: Seton Medical Center
HIOs and or LEMSAs	**Category Maximum $90,000 Develop Service level agreements for HIE on-boarding:** • $90,000 Organizations Name: San Mateo County Connected Care (SMCC) HIE

Milestone 1-b Adoption Phase 2: Testing	
Funding: Up to 20% of Total Award $ 300,000	Milestone Achievement Measurement: Testing Search and Alert Success is defined as at least one SEARCH with a patient match, retrieval of health information for at least 1 matched patient, and ALERT reporting of important patient information for at least 1 patient on a hospital ED dashboard. The metric is measured per participant.
Milestone Description: Demonstrate successful Adoption of SEARCH and ALERT functions among all stakeholders in production.	
EMS Providers	**Category Maximum $ 150,000** • $ 75,000 Providers Name: American Medical Response (AMR) • $ 75,000 Providers Name: South San Francisco Fire Department
Hospitals	**Category Maximum $150,000** • $30,000 Providers Name: Mills-Peninsula Medical Center • $30,000 Providers Name: Stanford Medical Center • $30,000 Providers Name: Sequoia Hospital • $30,000 Providers Name: San Mateo County Medical Center • $30,000 Providers Name: Seton Medical Center

Milestone 2 Exchange	
Funding: Up to 15% of Total Award $225,000	Milestone Achievement Measurement: Search and Alert
Milestone Description: 1. Demonstrate SEARCH functionality with a minimum of 50% usage and 30% match success, or retrieval success, by paramedics of identified pre-hospital patients for three (3) consecutive months (measured on a monthly basis). ****** Metrics for Hospitals one (1) – two (2) will yield 10% patient match threshold that will increase over time as more patient data is obtained with the onboarding of the receiving hospitals within the SMCC HIE. Resulting in achieving the 30% match after the onboarding of all participating hospitals. 2. Demonstrate ALERT functionality with a minimum of 80% usage (on emergency patients to be transported to a defined hospital) for three (3) consecutive months (measured on a monthly basis).	1. The metric is defined as the number of times, for which an emergency patient is searched for, and a patient is successfully identified or for which information is successfully retrieved from the RHIO or other clinical system by the ePCR, divided by the number of new patient encounters created in the ePCR during a one (1) month period. The metric is measured per participant 2. Success is defined as success of at least one (1) patient match, retrieval of health information for at least one (1) matched patient and reporting of critical patient information for at least one (1) patient in a hospital ED dashboard. The metric is measured per participant.
EMS Providers	**Category Maximum $75,000** • $37,500 Providers Name: American Medical Response (AMR) • $37,500 Providers Name: South San Francisco Fire Dept.
Hospitals	**Category Maximum $75,000** • $15,000 Providers Name: Mills-Peninsula Medical Center • $15,000 Providers Name: Stanford Medical Center • $15,000 Providers Name: Sequoia Hospital • $15,000 Providers Name: San Mateo County Medical Center • $15,000 Providers Name: Seton Medical Center
HIOs and or LEMSAs	**Category Maximum $75,000** • $75,000 Organizations Name: San Mateo County Connected Care

Milestone 3 Interoperability	
Funding: Up to 15% of Total Award $225,000	Milestone Achievement Measurement: File and Reconcile
Milestone Description: • Demonstrate FILE functionality with a minimum of 40% usage per record (on transported patients to a defined hospital) for three (3) consecutive months (measured on a monthly basis). • Demonstrate RECONCILE functionality with a minimum of 40% usage per record (on transported patients) for three (3) consecutive months (measured on a monthly basis).	1. The metric is defined as the number of times a patient record created in the ePCR is successfully transmitted to the HIO and/or hospital EHR, matched to a patient, and incorporated as structured information. The metric is measured per participant. 2. The metric is defined as the number of times a patient record (ADT) is successfully transmitted from the hospital EHR to the ePCR, matched to a patient and encounter, and incorporated as structured information. Hospital discharge summaries also qualify and are encouraged. The metric is measured per participant.
EMS Providers	**Category Maximum $75,000** • $37,500 Providers Name: American Medical Response (AMR) • $37,500 Providers Name: South San Francisco Fire Department
Hospitals	**Category Maximum $75,000** • $15,000Providers Name: Mills-Peninsula Medical Center • $15,000 Providers Name: Stanford Medical Center • $15,000 Providers Name: Sequoia Hospital • $15,000 Providers Name: San Mateo County Medical Center • $15,000 Providers Name: Seton Medical Center
HIOs and or LEMSAs	**Category Maximum $75,000** • $75,000 Organizations Name: San Mateo County Connected Care

Milestone 4 Data Analytics	
Funding: Up to 20% of Total Award $300,000	Milestone Achievement Measurement:
Milestone Description: 1. Evaluate and report usage during the SEARCH and ALERT and the FILE and RECONCILE phases on a monthly basis. 2. Submit prehospital data and hospital outcome information on matched patients to EMSA. 3. Evaluate performance measures that involve pre-hospital and hospital data elements. 4. Submit a Final Report using EMSAs reporting documents by August 30, 2021. 5. Submit a Final Invoice no later than 30 days after services have been rendered.	1. Submit data monthly to EMSA. 2. Submit data monthly to EMSA. 3. Suggested measures you could choose to use in a proposal: • Outcome Measurements should be proposed by the LEMSA • EMS Core Measures • EMS Provider Primary Impression-Diagnosis Accuracy • EMT Provider Primary Impression Treatment • Protocol Compliance 4. EMSA approves the Final Report. 5. EMSA approves Final Invoice.
EMS Providers	**Category Maximum $100,000** • $50,000 Providers Name: American Medical Response (AMR) • $50,000 Providers Name: South San Francisco Fire Department
Hospitals	**Category Maximum $100,000** • $20,000 Providers Name: Mills-Peninsula Medical Center • $20,000 Providers Name: Stanford Medical Center • $20,000 Providers Name: Sequoia Hospital • $20,000 Providers Name: San Mateo County Medical Center • $20,000 Providers Name: Seton Medical Center
HIOs and or LEMSAs	**Category Maximum $100,000** • $100,000 Organizations Name: San Mateo County LEMSA

EXHIBIT D

SPECIAL TERMS AND CONDITIONS

1. LIABILITY FOR NONCONFORMING WORK: The Contractor will be fully responsible for ensuring that the completed work conforms to the agreed upon terms. If nonconformity is discovered prior to the Contractor's deadline, the Contractor will be given a reasonable opportunity to cure the nonconformity. If the nonconformity is discovered after the deadline for the completion of project, the State, in its sole discretion, may use any reasonable means to cure the nonconformity. The Contractor shall be responsible for reimbursing the State for any additional expenses incurred to cure such defects.
2. SETTLEMENT OF DISPUTES: In the event of a dispute, Contractor shall file a "Notice of Dispute" with the Emergency Medical Services Authority, Director or his/her designee within ten (10) days of discovery of the problem. Within ten (10) days, the Director or his/her designee shall meet with the Contractor and Project Manager for purposes of resolving the dispute. The decision of the Director or his/her designee shall be final.

   In the event of a dispute, the language contained within this agreement shall prevail over any other language including that of the bid proposal.
3. AGENCY LIABILITY: The Contractor warrants by execution of this Agreement, that no person or selling agency has been employed or retained to solicit or secure this Agreement upon agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty, the State shall, in addition to other remedies provided by law, have the right to annul this Agreement without liability, paying only for the value of the work actually performed, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.
4. IMPRACTICABILITY OF PERFORMANCE: This Agreement may be suspended or cancelled, without notice at the option of the Contractor, if the Contractor's or State's premises or equipment is destroyed by fire or other catastrophe, or so substantially damaged that it is impractical to continue service, or in the event the Contractor is unable to render service as a result of any action by any governmental authority.
5. LICENSES AND PERMITS: The Contractor shall be an individual or firm licensed to do business in California and shall obtain at his/her expense all license(s) and permit(s) required by law for accomplishing any work required in connection with this Agreement.

   If you are a Contractor located within the State of California, a business license from the city/county in which you are headquartered is necessary; however, if you are a corporation, a copy of your incorporation documents/letter from the Secretary of State's Office can be submitted. If you are a Contractor outside the State of California, you will need to submit to the Emergency Medical Services Authority (EMSA) a copy of your business license or incorporation papers for your respective State showing that your company is in good standing in that state

   In the event the Contractor fails to keep in effect at all times all required license(s) and permit(s), the State may, in addition to other remedies it may have, terminate this Agreement upon occurrence of such event.
6. AMENDMENTS: This agreement allows for amendments to add time for completion of specified deliverables and/or to increase funding. Should either party, during the term of this agreement, desire a change or amendment to the terms of this Agreement, such changes or amendments shall be proposed in writing to the other party, who will respond in writing as to whether the proposed changes/amendments are accepted or rejected. If accepted and after negotiations are concluded, the agreed upon changes shall be made through the State's official agreement amendment process. No amendment will be considered binding on either party until it is formally approved by both parties and the Department of General Services, if such approval is required.
7. FORCE MAJEURE: Neither party shall be liable to the other for any delay in or failure of performance, nor shall any such delay in or failures of performance constitute default, if such delay or failure is caused by "Force Majeure", as used in this section, "Force Majeure" is defined as follows: unforeseen circumstances

that make performance of the agreement impossible such as acts of war, civil unrest, acts of governments (such as changes in law), acts of God such as earthquakes, floods, and other natural disasters such that performance is impossible.

8. INSPECTION OF SERVICES: Services performed by Contractor under this Agreement shall be subject to inspection by EMSA at any and all times during the performance thereof. If EMSA official conducting the inspection determines that the services performed by Contractor (and/or materials furnished in connection therewith) are not in accordance with the specification, EMSA may, at its option, have the work performed by an alternate provider, charging the Contractor with any excess cost occasioned thereby.

9. FEDERAL GENERAL TERMS AND CONDITIONS: The Contractor will be required to comply with all applicable Federal Regulations and guidelines covered under:

   A. 42 CFR 495 Subparts D and 45 CFR 75
   B. Software and ownership rights: FR 95.617
   C. HITECH regulations: 42 CFR 495 Subpart D is the HITECH regulations
   D. Any other applicable federal regulations

10. RIGHTS IN DATA: In general, recipients own the rights in data resulting from a grant-supported project or program. However, the Notice of Award may indicate alternative rights, e.g., under a cooperative agreement or based on specific programmatic considerations as stated in the applicable program announcement or solicitation. Except as otherwise provided in the Notice of Award, any publications, data, or other copyrightable works developed under an HHS grant may be copyrighted without prior approval.

    For this purpose, “data” means recorded information, regardless of the form or media on which it may be recorded, and includes writings, films, sound recordings, pictorial reproductions, drawings, designs or other graphic representations, procedural manuals, forms, diagrams, work flow charts, equipment descriptions, data files, data processing or computer programs (software), statistical records, and other research data.

    Protected patient health information is not considered data for the purposes of this section.

11. RIGHT TO TERMINATE: The State reserves the right to terminate this agreement subject to 30 days written notice to the Contractor. The Contractor may submit a written request to terminate this agreement only if the State should substantially fail to perform its responsibilities as provided herein.

    However, the agreement can be immediately terminated for cause. The term “for cause” shall mean that the Contractor fails to meet the terms, conditions, and/or responsibilities of the agreement. In this instance, the agreement termination shall be effective as of the date indicated on the State’s notification to the Contractor.

12. LIABILITY FOR LOSS AND DAMAGES: Any damages by the Contractor to the State’s facility including equipment, furniture, materials or other State property will be repaired or replaced by the Contractor to the satisfaction of the State at no cost to the State. The State may, at its option, repair any such damage and deduct the cost thereof from any sum due Contractor under this Agreement.

13. CONFIDENTIALITY OF DATA: No reports, information, inventions, improvements, discoveries, or data obtained, repaired, assembled, or developed by the Contractor pursuant to this Agreement shall be released, published, or made available to any person (except to the State) without prior written approval from the State.

    The contractor by acceptance of this Agreement is subject to all of the requirements of California Civil Code Sections 1798, et seq., regarding the collections, maintenance, and disclosure of personal and confidential information about individuals.

14. POTENTIAL SUBCONTRACTORS: Nothing contained in this Agreement or otherwise shall create any contractual relation between the State and any subcontractors, and no subcontract shall relieve the Contractor of its responsibilities and obligations hereunder. The Contractor agrees to be as fully responsible to the State for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by the Contractor. The Contractor's obligation to pay its subcontractors is an independent obligation from the

State's obligation to make payments to the Contractor. As a result, the State shall have no obligation to pay or to enforce the payment of any moneys to any subcontractor.

15. GOODS AND SERVICES: The State reserves the rights to inspect, reject, and/or accept all goods and services provided within this agreement.

EXHIBIT E

PARTICIPATING EMS/EMERGENCY AMBULANCE PROVIDERS

	Ambulance Provider Name (AMR, Fire Dept., Etc.)	Location (City)	# Transports	# Transport Units	# Annual Emergency Responses	EHR Vendor	LEMSA Association
San Mateo County	AMR	Burlingame (Country EOA)	25,755	34	41,224	MEDS	San Mateo County EMS
	South San Francisco Fire Dept.	South San Francisco (South San Francisco EOA)	2,662	5	4,367	MEDS	San Mateo County EMS
	JPA (non-transport ALS first response)	All cities and unincorporated areas Countywide	N/A	53	45,591	MEDS	San Mateo County EMS

Summary

% of Emergency Ambulance Providers Proposed to participate (Participants/ Total ambulance providers) = 100%

%of Total Emergency Responses (Volume of Participating Providers/ Total Emergency Responses) = 100%

PARTICIPATING EMS RECEIVING HOSPITALS

	EMS Receiving Hospital Name	Location (County)	Base Hospital (Y/N)	# Annual Transport Rcv'd	EHR Vendor	LEMSA Association
San Mateo County	Seton Medical Center	Daly City	Y	3,781	Picis Ed PulseCheck	Yes
	Mills-Peninsula Medical Center	Burlingame	Y	11,082	EPIC	Yes
	San Mateo Medical Center	San Mateo	Y	3,162	Picis ED PulseCheck	Yes
	Sequoia Hospital	Redwood City	Y	2,626	Cerner	Yes
	Stanford Health Care	Palo Alto	Y	5,769	EPIC	Yes

Summary

% of EMS Receiving Hospitals Proposed to participate (Participants/ total EMS Receiving Hospitals) = 100% *The willingness and extent to which Kaiser may or may not participate is uncertain.

% of Total Ambulance Transports Received (Volume of Participating Providers/Total Ambulance Transports Received) = 100%

EXHIBIT F

PROJECT TIMELINE DETAIL

Task to be Completed	Party Responsible for Completion	Target Start Date (Grant Quarter)	Target End Date (Grant Quarter)	Milestone Achievement Measurement
Milestone 1-a Adoption Phase 1 : Initiate Participation in +EMS SAFR				
Onboarding Structure Milestone Metric 1: Develop Service level HIE on-boarding agreements for each of the identified participants: Ambulance Providers-(American Medical Response (AMR) and South San Francisco Fire Department are the two (2) 9-1-1 ambulance providers) and Pre-Hospital Emergency Medical Services Group (JPA) , Hospitals (Mills- Peninsula Medical Center, Stanford Medical Center, Sequoia Hospital, San Mateo County Medical Center, Seton Medical Center) and San Mateo County Connected Care (SMCCC) Health Information Exchange (HIE).	San Mateo County Connected Care (SMMC- HIE)	November 1, 2019 (Q1)	December 31, 2019 (Q1)	• Contract with RHIO that will serve as the HUB for patient query information. Hub may serve as the functionally to achieve search. • Identify EMS Providers and Hospitals that will onboard and are listed in Exhibit E.
Milestone 1-b Adoption Phase 2: Testing				
Demonstrate successful Adoption of SEARCH and ALERT functions among all stakeholders in production. Emergency Ambulance Providers-(American Medical Response (AMR) and South San Francisco Fire Department are the two (2) 9-1-1 ambulance providers) and Pre-Hospital Emergency Medical Services Group (JPA) Connections are established enabling SEARCH and ALERT functions with ePCR enabling transmission to the dashboards of participating hospitals.	San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	January 15, 2020 (Q2)	January 31, 2021 (Q5)	• Success is defined as at least one (1) SEARCH with a patient match, retrieval of health information for at least one (1) matched patient, and ALERT reporting of important patient information for at least one (1) patient on a hospital ED dashboard. The metric is measured per participant.
Emergency Ambulance Providers (American Medical Response (AMR) and South San Francisco Fire Department are the two (2) 9-1-1 ambulance providers) & Pre-Hospital Emergency Medical Services Group (JPA)-demonstrate Search & Alert functionality as defined by this milestone description for the Adoption Phase.	AMR, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	January 15, 2020 (Q2)	January 31, 2020 (Q5)	
Hospital #1- Mills-Peninsula Medical Center: Demonstrate Alert functionality as defined by this milestone description for the Adoption Phase.	Mills-Peninsula Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	January 15, 2020 (Q2)	February 29, 2020 (Q2)	
Hospital #2- Stanford Medical Center: Demonstrate Alert functionality as defined by this milestone description for the Adoption Phase.	Stanford Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	April 1, 2020 (Q2)	April 30, 2020 (Q2)	
Hospital #3-Sequoia Hospital: Demonstrate Alert functionality as defined by this milestone description for the Adoption Phase.	Sequoia Hospital, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	June 1, 2021 (Q3)	June 30, 2021 (Q3)	

Hospital #4- San Mateo County Medical Center: Demonstrate Alert functionality as defined by this milestone description for the Adoption Phase.	San Mateo County Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	August 1, 2020 (Q3)	August 31, 2020 (Q3)	
Hospital #5- Seton Medical Center: Demonstrate Alert functionality as defined by this milestone description for the Adoption Phase.	Seton Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	January 1, 2021 (Q5)	January 31, 2021 (Q5)	

Milestone 2 Exchange				
Milestone Achievement Measurement: Search and Alert 1. The metric is defined as the number of times, for which an emergency patient is searched for, and a patient is successfully identified or for which information is successfully retrieved from the RHIO or other clinical system by the ePCR, divided by the number of new patient encounters created in the ePCR during a one (1) month period. The metric is measured per participant. 2. Success is defined as success of at least one (1) patient match, retrieval of health information for at least one (1) matched patient and reporting of critical patient information for at least one (1) patient in a hospital ED dashboard. The metric is measured per participant.		March 1, 2020 (Q2)	April 30, 2021 (Q5)	• Demonstrate SEARCH functionality with a minimum of 50% usage and 30% match success, or retrieval success, by paramedics of identified pre-hospital patients for three (3) consecutive months (measured on a monthly basis). *** Metrics for Hospitals one (1) – two (2) will yield 10% patient match threshold that will increase over time as more patient data is obtained with the onboarding of the receiving hospitals within the SMCC HIE. Resulting in achieving the 30% match after the onboarding of all participating hospitals..*** • Demonstrate ALERT functionality with a minimum of 80% usage (on emergency patients to be transported to a defined hospital) for three (3) consecutive months (measured on a monthly basis).
Emergency Ambulance Providers: (American Medical Response (AMR) and South San Francisco Fire Department are the two (2) 9-1-1 ambulance providers) & Pre-Hospital Emergency Medical Services Group (JPA)-demonstrate Search & Alert functionality as defined by this milestone description for the Exchange Phase.	AMR, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	March 1, 2020 (Q2)	April 30, 2021(Q5)	• 1st Hospital – Mills Peninsula: December 1, 2019 - February 29, 2020 (90 days - due to holiday's & 1st site added extra time) • 2nd Hospital – Stanford: March 1, 2020- April 30, 2020 (60 days) • 3rd Hospital – Dignity Sequoia: May 1, 2020 - June 30, 2020 (60 Days) • 4th Hospital – San Mateo Medical Center: July 1, 2020- November 30, 2020 (120 days- Build Needed by Vendor) • 5th Hospital Seton Medical Center: December 1, 2020- January 31, 2021 (60 Days)
Hospital #1- Mills-Peninsula Medical Center: demonstrate Alert functionality as defined by this milestone description for the Exchange Phase.	Mills-Peninsula Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	March 1, 2020 (Q2)	May 31, 2020 (Q3)	
Hospital #2-Stanford Medical: Center: Demonstrate Alert functionality as defined by this milestone description for the Exchange Phase.	Stanford Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	May 1, 2020 (Q3)	July 31, 2020 (Q3)	
Hospital #3-Sequoia Hospital: Demonstrate Alert functionality as defined by this milestone description for the Exchange Phase.	Sequoia Hospital, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	July 1, 2020 (Q3)	September 30, 2020 (Q4)	
Hospital #4-San Mateo County Medical Center: Demonstrate Alert functionality as defined by this milestone description for the Exchange Phase.	San Mateo County Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	December 1, 2020 (Q4)	February 28, 2021 (Q5)	
Hospital #5-Seton Medical Center: Demonstrate Alert functionality as defined by this milestone description for the Exchange Phase.	Seton Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	February 28, 2021 (Q5)	April 30, 2021 (Q5)	

Milestone 3 Interoperability				
Milestone Achievement Measurement: File and Reconcile 1. The metric is defined as the number of times a patient record created in the ePCR is successfully transmitted to the HIO and/or hospital EHR, matched to a patient, and incorporated as structured information. The metric is measured per participant. 2. The metric is defined as the number of times a patient record (ADT) is successfully transmitted from the hospital EHR to the ePCR, matched to a patient and encounter, and incorporated as structured information. Hospital discharge summaries also qualify and are encouraged. The metric is measured per participant.		March 1, 2020 (Q2)	April 30, 2021(Q5)	• Demonstrate FILE functionality with a minimum of 40% usage per record (on transported patients to a defined hospital) for three (3) consecutive months (measured on a monthly basis). • Demonstrate RECONCILE functionality with a minimum of 40% usage per record (on transported patients) for three (3) consecutive months (measured on a monthly basis).
Emergency Ambulance Providers: (American Medical Response (AMR) and South San Francisco Fire Department are the two 9-1-1 ambulance providers) ePCR to HIO or hospital EHR as defined by the File and Reconcile milestone description for the Interoperability Phase.	AMR, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	March 1, 2020 (Q2)	April 30, 2021(Q5)	
Hospital #1- Mills-Peninsula Medical Center: EHR to ePCR as defined by the File and Reconcile milestone description for the Interoperability Phase.	Mills-Peninsula Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	March 1, 2020 (Q2)	May 31, 2020 (Q3)	
Hospital #2-Stanford Medical Center: EHR to ePCR as defined by the File and Reconcile milestone description for the Interoperability Phase.	Stanford Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	May 1, 2020 (Q3)	July 31, 2020 (Q3)	
Hospital #3-Sequoia Hospital: EHR to ePCR as defined by the File and Reconcile milestone description for the Interoperability Phase.	Sequoia Hospital, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	July 1, 2020 (Q3)	September 30, 2020 (Q4)	
Hospital #4-San Mateo County Medical Center: EHR to ePCR as defined by the File and Reconcile milestone description for the Interoperability Phase.	San Mateo County Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	December 1, 2020 (Q4)	February 28, 2021 (Q5)	
Hospital #5-Seton Medical Center: EHR to ePCR as defined by the File and Reconcile milestone description.	Seton Medical Center, San Mateo County Connected Care (SMMC- HIE), & San Mateo County LEMSA	February 28, 2021 (Q5)	April 30, 2021 (Q5)	

Milestone 4 Data Analytics				
Milestone Achievement Measurement: 1. Submit data monthly to EMSA. 2. Suggested measures you could choose to use in a proposal: Outcome Measurements should be proposed by the LEMSA A. Percentage Patient Match – Percentage of instances of correct matching via the HIE when a patient exists in both prehospital and hospital records. B. Percentage Match of Ambulance Primary Impression to Hospital Discharge Diagnosis – Percentage match of prehospital ambulance primary impression with hospital discharge diagnosis. C. Percentage Match of First Responder Primary Impression to Hospital Discharge Diagnosis – Percentage match of prehospital first responder primary impression with hospital discharge diagnosis. D. Percentage of Patients Transported to Emergency Department and Admitted – Percentage of patients transported to an emergency department and admitted to that hospital. E. Percentage of Patients Transported to Emergency Department and Discharged – Percentage of patients transported to an emergency department and discharged from that hospital. F. Percentage of Patients Transported to Emergency Department and Transferred – Percentage of patients transported to an emergency department and transferred to another acute care hospital associated with the same episode of care. G. Percentage of Opioid Overdose – Percentage of prehospital overdose primary impression match with overdose hospital discharge diagnosis when two or more doses of naloxone are administered in the prehospital setting. H. Percentage of Billing Information Acquisition via the HIE – Percentage of patient transports for which an ambulance provider obtains returned and hospital verified billing information via the HIE. 3. EMSA approves the Final Report. 4. EMSA approves Final Invoice.	San Mateo County LEMSA	March 1, 2020 (Q2)	April 30, 2021 (Q5)	1. Evaluate and report usage during the SEARCH and ALERT and the FILE and RECONCILE phases on a monthly basis. 2. Submit prehospital data and hospital outcome information on matched patients to EMSA. 3. Evaluate performance measures that involve pre-hospital and hospital data elements 4. Submit a Final Report using EMSAs reporting documents by August 30, 2021. 5. Submit a Final Invoice to EMSA no later than 30 days after services have been rendered.

STATE OF CALIFORNIA
EMERGENCY MEDICAL SERVICES AUTHORITY
FAIT 501A(HITEMS) (Rev. 8-2019)

Exhibit G Invoice Sample

STATE OF CALIFORNIA
EMERGENCY MEDICAL SERVICES AUTHORITY
REIMBURSEMENT INVOICE

To: Emergency Medical Services Authority
10901 Gold Center Drive #400
Rancho Cordova, CA 95670
Attention: Leslie Witten-Rood

From: Enter Contractors Name
Person Submitting Invoice Name
Address:
Phone:
Email:

SUBMISSION DATE: 10/1/2019
CONTRACT NUMBER: C19-000
INVOICE NUMBER: 1-1
INVOICE PERIOD: **July-September 2019**
INVOICE AMOUNT: **$ 66,947.87**

Submit by Mail, or Email to: HIE.EMS@emsa.ca.gov

Purpose of this invoice is to reimburse the Contractor for expenditures associated with +EMS SAFR Contract. Supporting documentation of requested reimbursement, needs to be kept by the contractor, which includes your subcontractors documentation, and made available to EMSA upon request.

Budget Categories	Contract Budget	Grant Expenditures Current	Grant Expenditures Prior	Grant Expenditures YTD	Remaining Balance
Milestone 1-a Adoption Phase 1	$ 300,000.00	$ 17,626.61	$ 15,000.00	$ 32,626.61	$ 267,373.39
Milestone 1-b Adoption Phase 2	$ 200,000.00	$ 5,165.11	$ -	$ 5,165.11	$ 194,834.89
Milestone 2 Exchange	$ 150,000.00	$ 5,165.11	$ -	$ 5,165.11	$ 144,834.89
Milestone 3 Interoperability	$ 150,000.00	$ 18,132.84	$ 28,563.00	$ 46,695.84	$ 103,304.16
Milestone 4 Data Analytics	$ 200,000.00	$ 20,858.20	$ -	$ 20,858.20	$ 179,141.80
Totals	**$1,000,000.00**	**$ 66,947.87**	**$ 43,563.00**	**$ 110,510.87**	**$ 889,489.13**

I certify that I am the duly appointed and acting officer of the herein named agency and the costs being claimed herein are in all respects true, correct, and in accordance with the contract provisions; that funds were expended or obligated during the grant period; and the amount claimed above has not previously presented to or reimbursed by the Emergency Medical Services Authority (EMSA).

Request must be signed by the Contractor/Person with Signature Authority listed in the approved contract.

Signature: _____ **Title:** _____

Printed Name: _____ **Date:** _____

For EMSA Use Only

Reimbursement Request has been reviewed and I recommend payment of the requested amount.

Signature: _____ **Title:** **EMSA HIE Grant Coordinator**

Printed Name: _____ **Date:** _____

For EMSA Admin Use Only

Signature: _____ **Title:** _____

Printed Name: _____ **Date:** _____

Purpose of this page is to document grant expenses for July-September 2019

Contractor's Name:	**Somebody Somewhere**	**Fiscal Year :**	**2019-2020**
County:	**Any County**	**Quarter :**	**1st**

			Expenditures						
Budget Categories	**Contract Budget**		**Milestone 1.a**	**Milestone 1.b**	**Milestone 2**	**Milestone 3**	**Milestone 4**		**Remaining Balance**
EMS Providers	**$ 38,000.00**	-	**$ 17,000.00**	**$ 4,538.50**	**$ 4,538.50**	**$ 1,876.39**	**$ 4,958.20**	=	**$ 5,088.41**
Anything Ambulance	**$ 10,000.00**	-	$ 7,000.00	$ 538.50	$ 538.50	$ 276.39	$ 458.20	=	**$ 1,188.41**
EMS Ambulance	**$ 28,000.00**	-	$ 10,000.00	$ 4,000.00	$ 4,000.00	$ 1,600.00	$ 4,500.00	=	**$ 3,900.00**
Hospital Expenditures	**$ 14,000.00**	-	**$ 626.61**	**$ 626.61**	**$ 626.61**	**$ 956.45**	**$ 600.00**	=	**$ 10,563.72**
Medical Center	**$ 14,000.00**	-	$ 626.61	$ 626.61	$ 626.61	$ 956.45	$ 600.00	=	**$ 10,563.72**
LEMSA / HIO	**$ 201,077.00**	-	**$ -**	**$ -**	**$ -**	**$ 15,300.00**	**$ 15,300.00**	=	**$ 170,477.00**
HIO Corp.	**$ 201,077.00**	-				$ 15,300.00	$ 15,300.00	=	**$ 170,477.00**
Total Grant Expenses	**$ 253,077.00**	-	**$ 17,626.61**	**$ 5,165.11**	**$ 5,165.11**	**$ 18,132.84**	**$ 20,858.20**	=	**$ 186,129.13**

March 11, 2019

Leslie Witten-Rood
HIE in EMS Project Manager
10901 Gold Center Drive, Suite 400
Rancho Cordova, CA 95670-6056

Re: +EMS Local Assistance Grant Funding Opportunity

Dear Ms. Witten-Rood,

On behalf of the San Mateo County EMS Agency, a division of San Mateo County Health, it is my pleasure to submit the enclosed proposal for the development and implementation of interoperable health information exchange between 911 emergency ambulance and first responder service providers and receiving hospitals participating in the San Mateo County EMS system. San Mateo County Health is excited to partner with the California Emergency Medical Services Authority (EMSA) in this initiative as evidenced by its commitment to provide a non-Federal match in the amount of $100,000 to enhance funding levels.

In collaboration with San Mateo County Health's Connected Care Health Information Exchange, San Diego Health Connect, 911 prehospital service providers and receiving emergency departments within our LEMSA jurisdiction, we have established a foundation for the successful implementation of the Search, Alert, File and Reconcile functionality. San Mateo County recognizes that EMS is an integral part of the health care system - actions taken by EMS providers at the scene and enroute to the hospital effect outcomes, quality of care and patient satisfaction. Secure, HIPAA compliant bidirectional movement of electronic patient health information with hospitals for daily emergency medical services will allow providers in the field to appropriately access and securely share a patient's vital medical information electronically, providing the following benefits:

- First, Paramedics and EMTs on ambulances, and non-transport first responders, will be able to access individual patient information relevant to an emergency case to enhance clinical decision making for individual patients.
- Second, patient outcome data will be returned to EMS providers for quality and system improvement.
- Third, hospital emergency departments receiving real-time patient information from EMS providers will lead to improved clinical decision support and

creating an environment where time sensitive treatments can be expedited through advance notification, such as in the areas of trauma, chest pain, or stroke.

- Fourth, the integration of electronic pre-hospital care records into the hospital (EHR) will allow clinical care providers in both urban and rural communities across the continuum to support a more comprehensive, longitudinal, integrated patient record for seamless transitions of care.

Thank you in advance for EMSA's consideration of awarding funding to the San Mateo County EMS Agency sufficient to enable completion of the work required to link the electronic health records of EMS providers and hospitals in our EMS system. As partners in serving our community, the San Mateo County EMS system continues to enjoy collaborative and productive working relationships which enable us to successfully innovate and deliver exceptional patient care. Please do not hesitate to contact me if I may be of further assistance

Sincerely yours,

Travis Kusman, MPH, Paramedic
Associate Director
San Mateo County Emergency Medical Services

Cc: Nancy Lapolla, EMS Director

C. Grant Submission Cover Sheet and Checklist

Please complete this sheet and checklist and include with GFO submission:

Grant Applicant's Contact Information	
Lead Agencies Name:	San Mateo County EMS Agency
Staff Person Name:	Travis Kusman, MPH, Paramedic
Title:	Associate Director
Address:	801 Gateway Boulebard, Second Floor South San Francisco, California 94080
Phone:	(650) 304-4837
Email:	tkusman@smcgov.org

Submission Questions	
$ 1,705,220	Total Amount Request in GFO
$ 1,050,376	Amount Requested for the Lead Agency
# 10	# of proposed sub-recipients included in GFO Budget
$ 654,844	Total amount budgeted for sub-recipients
90 days	If awarded, what is the estimated time necessary to enter into a signed grant contract?
*A Lead Agency is the entity submitting the GFO	
*Sub-recipients could be any of the following: HIOs, EMS Providers, Hospital's and LEMSA, or vendors you included in your proposed Budget.	

Submission Checklist		
√	Included required items in application: • Abstract • Preparedness to achieve HIT for EMS • Service Area • Scope of work • Work Plan • Detailed Budget completed in excel forma • Budget Narrative	
√	Included proposed milestones and metrics	
√	Included support letters	
√	Included chart for EMS Emergency Provider by LEMSA Area	
√	Included chart for EMS Receiving Hospital's	
√	I have read and understand the Federal and State funding terms and conditions for this application.	

Abstract:

The San Mateo County Coalition is prepared to complete the grant requirements within the grant period to achieve Health Information Technology (HIT) for Emergency Medical Services (EMS). American Medical Response (AMR) and South San Francisco Fire Department are the two 9-1-1 ambulance providers for the County of San Mateo Emergency Medical Services LEMSA jurisdiction. In addition, the San Mateo County Pre-Hospital Emergency Medical Services Group (JPA), made up of 18 fire service agencies, is the first responder to the 45,591 emergency 9-1-1 medical calls in the LEMSA served area. All ambulance and fire first response agencies in the 9-1-1 system in San Mateo County utilize an ePCR which is a NEMSIS 3 compliant product.

The area served is San Mateo County, which is 744 square miles with an approximate population of 771,000 as of 2018 and is mix of densely populated urban areas and remote coastal areas. There are eight hospitals within the San Mateo County EMS system, which provide emergency department services, of which two are designated Level 1 trauma centers located in adjacent counties that provide emergency care to patients originating within the EMS service area.

In collaboration with: San Mateo Connected Care HIE, San Diego Health Connect, and receiving emergency departments within our LEMSA jurisdiction, we have established a foundation for the successful implementation of the SAFR functionality. We have enclosed a comprehensive scope of work, work plan that includes the technical details, and timelines to support the success of our implementation of the SAFR functionality. We have received letters of support from 100% of Emergency Ambulance Providers and the JPA (Chart A). The percentage of total Emergency Ambulance Responses is 100%. We have received a letter of support from our HIE partner San Mateo County Connected Care (SMCC). As noted in Chart B, we have engaged all 8/8 EMS receiving hospitals (6 primary EMS receiving hospitals, and two Level 1 designated trauma EMS receiving hospitals located in the two adjacent counties). We have included letters of support from EMS receiving hospitals as requested and fully anticipate the receipt of additional letters. Many of the hospitals have verbally expressed strong interest in this opportunity to improve patient care coordination and services for the patients in our community. We have written our scope of work and work plan with the anticipation of 8/8 hospitals participating, understanding that Kaiser may participate in a limited manner, if at all.

The San Mateo County Coalition, through this grant funding opportunity, seeks to further enhance the clinical decision-making for the patients in our care. The SAFR functionality enabling real time notification to hospitals, integration of electronic pre-hospital care records into the hospital electronic health record, and then returned data back to the EMS providers adds value in improving quality of care and services. Healthcare continues to become more complex, and leveraging technology is integral in our efforts to improve the

outcomes of our patients. The San Mateo County Coalition is prepared to complete the grant requirements within the grant period to achieve HIT for EMS.

Preparedness to Achieve HIE for EMS:

American Medical Response (AMR) and South San Francisco Fire Department are the two the 9-1-1 ambulance providers for the County of San Mateo Emergency Medical Services LEMSA jurisdiction. In addition, we are including the San Mateo County Pre-Hospital Emergency Medical Services Group (JPA). The JPA is made up of 18 fire service agencies that provide paramedic first responder services as part of the EMS coalition with this potential California Emergency Services Authority EMS Grant Funding Opportunity. Our EMS coalition utilizes MEDS ePCR- and it is a NEMSIS 3 compliant product.

San Mateo County Connected Care (SMCC) Health Information Exchange (HIE) is in the process of expanding from an enterprise (San Mateo County Health System) HIE to a Regional HIE with the recent joining of CTEN. SMCC HIE is an equivalent entity serving the functional aspect capabilities as outlined in the proposal requirements. In addition, we have established a self-contract partnership with San Diego Health Connect to leverage its technical expertise to support the successful implementation of commitments within this proposal. The San Mateo County Coalition is prepared to complete the grant requirements within the grant period to achieve HIT for EMS.

San Mateo County Health is pleased to partner with the California Emergency Medical Services Authority in this initiative and provide a non-Federal match in the amount of $100,000 to enhance funding levels.

Service Area:

The area served is 744 square miles with an approximate population of 771,000 as of 2018 within San Mateo County and is a mix of densely populated urban areas and remote coastal areas. There are eight hospitals within the San Mateo County EMS system which provide emergency department services, of which two are designated Level 1 trauma centers located in the adjacent counties that provide emergency care for the patients originating within the EMS service area.

There are two 9-1-1 ambulance service providers within the County - American Medical Response (AMR) and South San Francisco Fire Department. In addition, the San Mateo County Pre-Hospital Emergency Medical Services Group (JPA) made up of 18 fire service agencies is the first responder to the 45,591 emergency 9-1-1 medical calls in the LEMSA served area.

Proposed Scope of Work:

Participants

The San Mateo Coalition participants have collaborated to provide the description for the proposed work with the methodology to achieve the SEARCH, ALERT, FILE and RECONCILE functionality. Chart A provides the list of all EMS/Ambulance Providers and the JPA, which have all agreed to participate in the proposed grant. We have received letters of support from 100% of Emergency Ambulance Providers and the JPA (Chart A). The percentage of total Emergency Ambulance Responses is 100%.

As noted in Chart B, we have engaged all 8/8 EMS receiving hospitals (6 primary EMS receiving hospitals, with two Level 1 trauma EMS receiving hospitals located in the two adjacent counties. We have included letters of support from EMS receiving hospitals as requested and fully anticipate the receipt of additional letters. Many of the hospitals have verbally expressed strong interest in this opportunity to improve patient care coordination and services for the patients in our community. We have written our scope of work and work plan with the anticipation of 8/8 hospitals participating.

The San Mateo County Connected Care (SMCCC) Health Information Exchange is in the process of expanding from an enterprise (San Mateo County Health System) HIE to a Regional HIE with the recent joining of CTEN. SMCCC HIE has the functionality and capability as outlined within this proposed grant to serve as the “hub” for patient query information. SMCC HIE has provided a letter of support for this proposal. The San Mateo County Coalition is prepared to complete the grant requirements within the grant period to achieve HIT for EMS.

STRUCTURE Onboarding

Proposed Work: The Structure onboarding phase supports the overall readiness of the Emergency Ambulance Providers & the JPA, EMS Receiving Hospitals, and SMCCC HIE technology baseline infrastructure readiness. This phase will provide the foundational layer that is needed to support the four identified process phases: Search, Alert, File and Reconcile as identified with this EMS grant opportunity. We seek to also prepare the structure onboarding to enable ePCR interfaces to be “POLST-Ready”, and the onboarding readiness connectivity and incorporation of POSLT information sources with SMCC HIE which will contain this information.

Methodology: The STRUCTURE adoption phase will consist of first ensuring the execution of participation and Service Level Agreements from the identified participants. Connections for the Ambulance Providers & the JPA will be established by establishing connectivity between the ePCR and the HIE via EMS Connector over HTTPS. Production SSL certificates will be exchanged, and mutual HTTPS authentication is required.

Connections for the Receiving Hospitals will be established by SMCCC to each participant ED.

A VPN connection will be established, which will allow the information to be exchanged securely. Hl7v2 messages will be sent over MLLP to an IP/PORT range to be mutually specified between parties. Completed reports will be sent to/from the ePCR to the HIE and then into the ED document repository. The final file PDF will be encoded in a JSON message and will produce an MDM-T02 HL7v2 message to the destination hospital.

Outcome Measures Milestones

Outcome/Milestone 1. Develop and execute participation agreements for each of the identified participants: Ambulance Providers, JPA, Hospitals, and SMCCC HIE as outlined in Chart A and Chart B. The expected date for this deliverable is September 6, 2019.

Outcome/Milestone 2. 80% of Emergency Ambulance Providers and the JPA Connections are established enabling SEARCH and ALERT functions with ePCR enabling transmission to the dashboards of participating hospitals. The expected date for this deliverable is October 4, 2019.

Outcome/Milestone 3. 80% of EMS Receiving Hospitals Connections are established. The expected date for this deliverable is September 25, 2020.

Outcome/Milestone 4. Successful Testing of required functionality for SEARCH, ALERT, FILE, and RECONCILE functions – test Connectivity from ePCR to HIE by installing certificates and successful XDS.b PIX/PDQ query of patient. Retrieval of Medications, Allergies, Problems, and Encounters. Test connectivity between HIE and ED/Hospital. Setup VPN, exchange HL7/CCDA messages between HIE and ED. Successful retrieval of eOutcomes report from ED to HIE to ePCR. The expected date for this deliverable is November 13, 2020, with the conclusion of the testing for the final proposed hospital.

POLST Outcome Milestone Metric 1. Onboarding of SMCC HIE that have POLST forms or information. The expected date for this deliverable is September 6, 2019.

POLST Outcome Milestone Metric 2. Connectivity to and Incorporation of POLST information sources including a POLST SMCC HIE which will contain this information if available. The expected date for this deliverable is October 4, 2019.

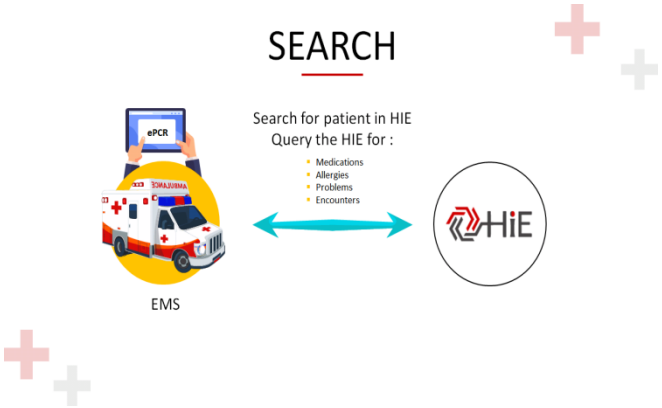
POLST Outcome Milestone Metric 3. Enable ePCR interfaces to be “POLST-Ready.” The expected date for this deliverable is October 4, 2019.

SEARCH

Proposed Work: Implementation of electronic patient lookup system for AMR's 34 ambulances, South San Francisco Fire Department's 5 ambulances, and 53 JPA ALS first responder units (Chart A) and establish secure bidirectional movement of electronic patient health information with the identified emergency departments of the eight receiving hospitals (Chart B).

Methodology: When EMS/first responders enter in patient information within their ePCR/E.H.R., an auto search will occur by "pinging" San Mateo County Connected Care HIE to determine if there are any matches for this patient. If there is an identified patient match, then without any action needed by the EMS/first responders, the data will flow back from the HIE to the EMS crew.

This Search methodology will have minimal changes to the existing workflow of the EMS/first responders to decrease any potential impact to the patient care treatment algorithms. SEARCH allows the paramedic to query the HIE for all problems, medications, allergies, and encounters known to the HIE. The search is performed using an industry standard PIX/PDQ followed by an XDS.b document query and retrieve. The HIE will aggregate all participant documents and return a single structured CCDA to the ePCR.



The technological pathway consists of:

High Level Flow Guide:

1. The ePCR user will enter relevant patient information into the ePCR and trigger a SEARCH.
2. The ePCR will send A **Patient Discovery Request** message to the Connector.
3. The Connector uses the **Patient Discovery Request** message to query the HIE for a patient list.
4. The HIE will respond with a list of matching patients.
5. The Connector will return a **Patient Discovery Response** message to the ePCR.

6. The ePCR will receive the **Patient Discovery Response** message and display the potential matches on the device.
7. The ePCR user will then select the patient from the returned list.
8. The ePCR will send a **Document Query Request** message for the selected patient to the Connector.
9. The Connector will use the **Document Query Request** message to query the HIE for relevant clinical data.
10. The Connector will respond first with a **Document Query Response** stating that documents are available to retrieve.
11. If there were documents found in the **Document Query Response** the Connector will then send a **Document Retrieve Response** message. The **Document Retrieve Response** message will contain a Base-64 encoded CDA document. This CDA document will include the list of medications, allergies, problems and encounters (MAPE) for the selected patient.
12. The ePCR then displays the MAPE information to the user. Note: the ePCR may filter some Encounter information.

Message Relay

- SEARCH messages are sent from to ePCR to the Connector via SOAP protocol.
- The Connector and the ePCR vendor needs to exchange production certificates.
- Mutual HTTPS authentication is required.

Patient Discovery

- Patient Discovery is a SEARCH of the HIE's MPI by patient demographics to determine if the patient exists in the HIE.
- Patient Discovery will be handled through the standard IHE **PDQv3 - Patient Demographics Query HL7 V3** profile.

This Methodology supports the enhancement of clinical decision making for individual patients. It further supports the precious minutes that the field EMS crew has to quickly obtain as much clinical data as they can to determine the appropriate treatment modalities to yield the best patient outcomes while they are transporting the patient to the nearest ED of the receiving hospital.

Outcome Measures Milestones

Adoption Phase:

Outcome/Milestone 1. Successful testing of SEARCH functionality with at least 10% patient match and retrieval of health information. This will be demonstrated by searching for the patient, finding a patient match and

retrieving from the HIE. This data will be imported into the ePCR client. The EMS/First Responders with an outcome of metric of at least one SEARCH with a patient Match, retrieval of health information for at least one match patient. The 10% patient match threshold will increase over time as more patient data is obtained with the onboarding of the receiving hospitals within the SMCC HIE allowing for increased patient matching. The expected date for this deliverable is December 6, 2019.

Exchange Phase:

Outcome/Milestone 2. Demonstrate SEARCH functionality with minimum of 50% usage and 30% match success, or retrieval success, by paramedics of the identified pre-hospital patients for three consecutive months (measured monthly). The metric is defined as the number of times for which a patient is searched for, and a patient is successfully identified or for which information is successfully retrieved from the RHIO or other clinical system by the ePCR, divided by the number of new patient encounters created in the ePCR during a 1-month period. The metric is measured per participant. The expected date for this deliverable is March 5, 2021.

Outcome Milestone 3. 10% of CCD Returned during use of SEARCH functionality The 10% patient match threshold will increase over time as more patient data is obtained with the onboarding of the receiving hospitals within the SMCC HIE allowing for increased patient matching. The expected date for this deliverable is March 6, 2020.

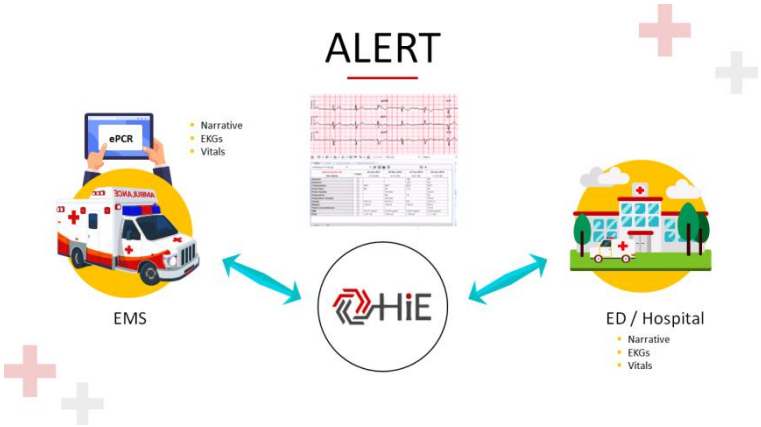
Outcome Milestone 4. 1% of POLST Record Returned (EMS & Hospital) during use of SEARCH functionality. The 1% patient match threshold will increase over time as more patient data is obtained with the onboarding of the receiving hospitals within the SMCC HIE allowing for increases and connection to a POLST registry that will be completed as part of this proposal. The expected date for this deliverable is May 1, 2020.

ALERT

Proposed Work: Implementation of ALERT Functionality for hospital emergency departments to receive real-time patient information through a dashboard that will lead to improved clinical decision support and creating an environment where time sensitive treatments can be expedited through advance notification, such as in the areas of trauma, chest pain, or stroke.

Methodology: The receiving emergency departments will receive real-time patient information for treatment clinical decision support. There will be testing of the

ALERT function that will validate the receipt of the real time patient information from the emergency ambulance providers. The testing will include the outlined steps and flow map below which will result in achieving the defined outcome measures below.



Technical Steps and Flowmap

ALERT will send HL7 messages to the hospital. The HL7v2 messages will fulfill the following:

- Pre-admit of the patient into the ED system.
- Provide the paramedic narrative report, as well as a system generated narrative.
- Provide the ED system with a set of vitals which the paramedic captured while in route.
- If available, provide all EKG images to the ED system.
- Creates flagging for special scenarios such as Trauma patients.

High Level Flow Guide

1. The ePCR user enters the destination location (one of proposed locations for the purposes of this Grant).
2. The ePCR user enters relevant clinical information.
3. The ePCR sends a Nemsis3.4 Message to the Connector.
4. On the first Nemsis3.4 message received for the Patient Care Report #, SMCC will convert the Nemsis3.4 message to an ADT-A05 (Pre-Admit) HL7v2.x message. The ADT-A05 message is then sent to the destination location.
5. For all Nemsis3.4 messages received from the ePCR SMCC will:
    a. Convert relevant clinical information into an ORU-R01 (Unsolicited transmission of observation) message. The ORU-R01 message is then sent to the destination location.

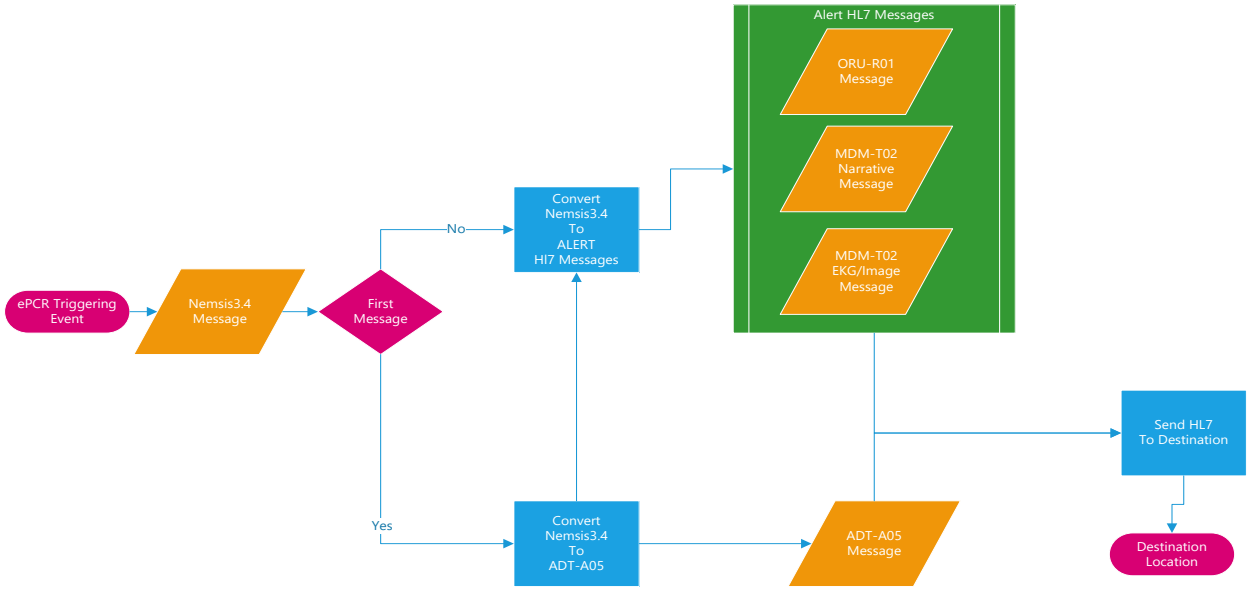
b. Parse the Nemsis document for data to include in a system generated narrative and include the paramedic's narrative in an MDM-T02 message.
c. If applicable provide EKGs in individual MDM-T02 messages.

6. The ED's electronic medical record (EMR) (Epic will be the first EMR for the purposes of this Grant, with others to follow – Cerner, PICIS) will consume the information and display it in the EMR.

Caveats:

1. If a pre-admit has already been sent to a SAFR hospital and the location from the Nemsis message is changed. An A11 – cancellation message is sent to the initial location.
2. If the first receipt of the Nemsis message occurs after the patient has already arrived at the hospital no pre-admit or alert messages will be sent to the hospital.

Flowmap:



Outcome Measures Milestones

Exchange Phase:

Outcome/Milestone 1. Transmission of 80% of eligible records (on patients to be transported to a defined hospital) from the field to the emergency department during ALERT phase. Demonstrate ALERT functionality with minimum of 80% usage for 3 consecutive months (measured monthly). Success is defined as success of at least one patient match, retrieval of health information for at least one matched patient, and

reporting of critical patient information for at least one patient in a hospital ED dashboard. The metric is measured per participant. The expected date for this deliverable is January 8, 2021.

Outcome/Milestone 2. 80 % Usage Dashboard Display at the participating hospitals EDs (HIE MU Stage 3 (M3) 80% Required. Within our LEMSA jurisdiction and anticipated participating hospitals there are at least two receiving hospitals who are not at MU Stage 3. The two hospitals who are not MU Stage 3 have submitted a Vendor Letter of Support for the development commitment to have a Dashboard – ED Tracking Display of the patient data information allowing the entities to have the valuable information to make improved clinical decision support. The expected date for this deliverable is January 8, 2021.

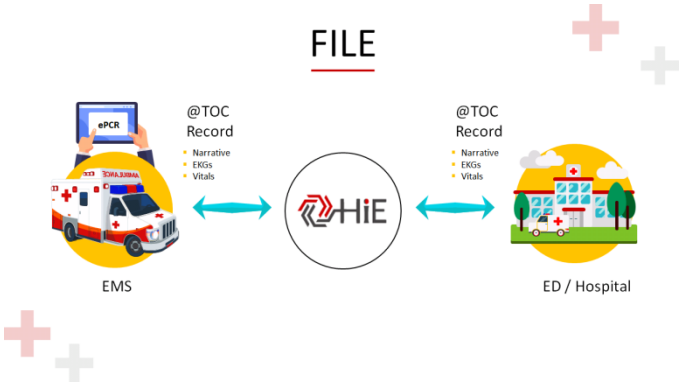
Outcome/Milestone 3. % Participating hospitals EDs will evaluate Clinical Decision Support MU Stage 3 (M2) with Drug-Drug and Drug-Allergy interactions. Within our LEMSA jurisdiction and anticipated participating hospitals, there are at least two receiving hospitals who are not at MU Stage 3. The expected date for this deliverable is January 8, 2021.

FILE

Proposed Work: This work will entail the creation of the electronic patient care report information into the longitudinal patient record as discrete data, including as an EMS Continuity of Care Document that will result in the defined demonstrated outcome for the FILE functionality. Transmission of at least 40% of eligible records between the emergency ambulance provider and the hospital during FILE will occur as defined in outcome measure below.

Methodology:

FILE will provide the ED with a full report from the ePCR which is directly put into the ED document repository and automatically tied to the patient record. An additional goal is to provide an EKG report if located in the paramedic rig.



High Level Flow Guide

1. The ePCR will send the Final File PDF encoded in a JSON message to the Connector when the patient care report is closed.
2. The Connector will interpret the JSON message and produce an MDM-T02 HL7v2 message to send to the destination hospital.

Message Relay

- FILE JSON messages will be sent to the Connector over HTTPS.
  - Production ssl certificates need to be exchange.
  - Mutual HTTPS authentication is required.
- FILE hl7ve MDM-T02 messages will be sent from the Connector to the corresponding ED.
  - A VPN connection will need to be set up from SMCC to the participant ED
  - HL7v2 messages will be sent over MLLP to an IP/PORT range specified by the participant.
- A second IP/PORT value can be set for the EKG messages.

JSON Message

The JSON message from the ePCR to SMCC is a simple message that contains the following fields:

Field name	Data type	Example
patientCareReportNumber	String	1103571a
incidentNumber	String	FS0123456789
report	BASE64 Encoded String	JVBERi0xLjM...
agencyId	String	506

Outcome Measures Milestones

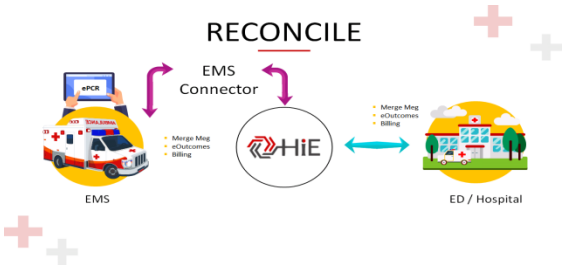
Interoperability Phase

Outcome/Milestone 1. Demonstrate FILE functionality with minimum of 40% usage per record (on transported patients to a defined hospital) for 3 consecutive months (measured monthly). The metric is defined as the number of times a patient record created in the ePCR is successfully transmitted to the HIO and/or hospital EHR, matched to a patient, and incorporated as structured information. The metric is measured per participant. The expected date for this deliverable is March 5, 2021.

Reconcile

Proposed Work: This work will entail the ability to RECONCILE a limited set of outcome and billing information from the patient's hospital record (ADT Messages) and discharge summary, back into the EMS electronic patient care report (ePCR) for quality analysis and system improvement that will result in the defined demonstrated outcome for the RECONCILE functionality. This will be performed by a discharge summary HL7 report that will flow back into the ePCR system for reconciliation. This will support the attainment of the transmission of 40% of eligible records between the emergency ambulance provider and the hospital during the RECONCILE phase as outline in the outcome metric below.

Methodology:
RECONCILE will return important data such as chief complaint, billing information, etc.. from the hospital discharge back to the agency.



High Level Flow

1. The Connector will use the existing feeds from the destination hospital to the HIE.
2. The Connector will look for A03 (discharge) or A06(transfer from outpatient to inpatient) messages that have a PV1-50 value that matches the PID-3 sent in the Alert A05.
3. The Connector will convert the HL7 data to a consolidated Nemsis document.

Message Relay

- RECONCILE hL7v2 messages will already be sent from the ED to the Connector. If not:
  - A VPN connection will need to be set up from the participant ED to SMCC.
  - HL7v2 messages will be sent over MLLP to an IP/PORT range specified by SMCC.
- RECONCILE Nemsis messages will be sent to the ePCR vendor over HTTPS
  - Production ssl certificates need to be exchange
  - Mutual HTTPS authentication is required

Outcome Measures Milestones:

Interoperability Phase:

Outcome/Milestone: 40% of Records (ADT and hospital discharge summaries) returned to ePCR System. Demonstrate RECONCILE functionality with minimum of 40% usage per record (on transported patients) for 3 consecutive months (measured monthly). The metric is defined as the number of times a patient record (ADT) is successfully transmitted from the hospital EHR to the ePCR, matched to a patient and encounter, and incorporated as structured information. Hospital discharge summaries also qualify and are encouraged. The metric is measured per participant. The expected date for this deliverable is March 5, 2021.

Data and Proposed Analytics

- ***Percentage Patient Match*** – Percentage of instances of correct matching via the HIE when a patient exists in both prehospital and hospital records

- ***Percentage Match of Ambulance Primary Impression to Hospital Discharge Diagnosis*** – Percentage match of prehospital ambulance primary impression with hospital discharge diagnosis.

- ***Percentage Match of First Responder Primary Impression to Hospital Discharge Diagnosis*** – Percentage match of prehospital first responder primary impression with hospital discharge diagnosis.

- ***Percentage of Patients Transported to Emergency Department and Admitted*** – Percentage of patients transported to an emergency department and admitted to that hospital.

- ***Percentage of Patients Transported to Emergency Department and Discharged*** – Percentage of patients transported to an emergency department and discharged from that hospital.

  Percentage of Patients Transported to Emergency Department and Transferred – Percentage of patients transported to an emergency department and transferred to another acute care hospital associated with the same episode of care.

- ***Percentage of Opioid Overdose*** – Percentage of prehospital overdose primary impression match with overdose hospital discharge diagnosis when two or more doses of naloxone are administered in the prehospital setting.

- ***Percentage of Billing Information Acquisition via the HIE*** – Percentage of patient transports for which an ambulance provider obtains returned and hospital verified billing information via the HIE.

Work Plan: A work plan that provides enough detail to demonstrate to the evaluator that the applicant and responding team can successfully meet all requirements and includes the following:

1. Tasks and schedule to be accomplished - Attached is the excel project plan with milestones, metrics, deliverables and timeline with expected dates for reporting on metrics, milestones, deliverable outlining the scope of work described above.

2. Baseline number ambulance providers (2), denominator ambulance providers (2), target number ambulance providers (2). Baseline number EMS receiving hospitals (8), denominator EMS receiving hospitals (8), target number EMS receiving hospitals (8).

3. A list of coalition participants - Please see Chart A and Chart B.

4. The project team and the role of each member is captured in the table:

Project Team Members	Role
Carlye Hatwood	San Mateo County Connected Care (SMCCC) HIE – HIT Informatics Leader
David Anderson	SMCCC – HIE Technical Expert
Aung Tun	SMCCC – HIE Technical Expert
Project Manager	Project Manager – Project
Zen Consulting	Additional HIE Technical Expert Consultant as needed
Analyst	HIE/EMS/Hospital support
Clinical Educator	Educator for EMS – Hospital
Chad Henry	EMS Operations Manager
Linda Allington	EMS Clinical Manager
Travis Kusman	EMS Director

Budget:

The grant proposal budget was developed based on anticipated expenses that will be incurred by the organizations participating in the data exchanges. We estimated the number of hours required for preparation for onboarding, training and implementation resources and the actual implementation itself. We utilized the standard hourly rates charged by vendors and the hourly rate for our technical staff is based on our MIRTH HIE consultant rate, that we expect will be doing the majority of the HIE technical work for this proposed project. For each of the eight hospitals in the LEMSA, we included hours for the hospital, the EMS provider AMR, the HIE work and County EMS work. The final dollar amount includes contingency in anticipation of any unexpected issues and overages. Please see the line item enclosed budget for this proposed grant opportunity.

A detailed budget is attached in Exhibit 2.

Letters of Support:

Letters of support are attached in Exhibit 1.

CHART A: EMS/Emergency Ambulance Providers

	Ambulance Provider Name	Location (City)	# Transport Units	# Annual Emergency Responses	EHR Vendor	Proposed Grant Participant (Yes/No)
1	AMR	Burlingame (County EOA)	34	41,224	MEDS	Yes
2	South San Francisco Fire	South San Francisco (South San Francisco EOA)	5	4,367	MEDS	Yes
3	JPA (non-transport ALS first response)	All cities and unincorporated areas County-wide	53	45,591	MEDS	Yes

Summary
Percentage of Emergency Ambulance Providers Proposed to participate (Participants/ total ambulance providers) = 100%.

Percentage of Total Emergency Responses (Volume of Participating Providers/Total Emergency Responses) = 100%.

CHART B: EMS Receiving Hospitals

	EMS Receiving Hospital Name	Location (City)	Base Hospital (Yes/No)	# Annual Ambulance Transports Received	EHR Vendor	Proposed Grant Participant (Yes/No)
1	Seton	Daly City	Y	3,781	Picis ED PulseCheck	Yes
2	Kaiser South San Francisco	South San Francisco	Y	2,963	EPIC	Yes
3	Mills-Peninsula	Burlingame	Y	11,082	EPIC	Yes
4	San Mateo Medical Center	San Mateo	Y	3,162	Picis ED PulseCheck	Yes
5	Sequoia	Redwood City	Y	2,626	Cerner	Yes
6	Kaiser Redwood City	Redwood City	Y	3,789	EPIC	Yes
7	Stanford	Palo Alto	Y	5,769	EPIC	Yes
8	Zuckerberg San Francisco General	San Francisco	Y	706	Picis ED PulseCheck ** Proposed EPIC Implementation 7-01-2019**	Yes

Summary

*Percentage of EMS Receiving Hospitals Proposed to participate (Participants/ total EMS Receiving Hospitals) = 100% *The willingness and extent to which Kaiser may or may not participate is uncertain.*

Percentage of Total Ambulance Transports Received (Volume of Participating Providers/Total Ambulance Transports Received) = 100%.

Exhibit 1

Letters of Support

February 26, 2019

Ms. Nancy Lapolla
Director
San Mateo County Emergency Medical Services
801 Gateway Boulevard, Second Floor
South San Francisco, California

Via Electronic Mail

Re: Letter of Support – Health Information Exchange Grant Funding Opportunity

Dear Ms. Lapolla,

It is with enthusiasm that I provide this letter in support of the San Mateo County Emergency Medical Services Agency's proposal to the California Emergency Medical Services Authority (EMSA) in pursuit of grant funding to develop and implement interoperable health information exchange between 911 emergency ambulance and fire department medical first response providers and hospitals in the San Mateo County EMS system.

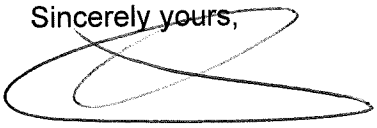
American Medical Response recognizes that EMS is an integral part of the health care system - actions taken by EMS providers at the scene and enroute to the hospital effect outcomes, quality of care and patient satisfaction. Secure, HIPAA compliant bidirectional movement of electronic patient health information with hospitals for daily emergency medical services will allow providers in the field to appropriately access and securely share a patient's vital medical information electronically, providing the following benefits:

- First, Paramedics and EMTs on ambulances, and non-transport first responders, will be able to access individual patient information relevant to an emergency case to enhance clinical decision making for individual patients.
- Second, patient outcome data will be returned to EMS providers for quality and system improvement.
- Third, hospital emergency departments receiving real-time patient information from EMS providers will lead to improved clinical decision support and creating an environment where time sensitive treatments can be expedited through advance notification, such as in the areas of trauma, chest pain, or stroke.
- Fourth, the integration of electronic pre-hospital care records into the hospital (EHR) will allow clinical care providers in both urban and rural communities across the continuum to support a more comprehensive, longitudinal, integrated patient record for seamless transitions of care.

American Medical Response hopes that EMSA will strongly consider awarding the San Mateo County EMS Agency funding sufficient to enable completion of the work required to link the

electronic health records of EMS providers and hospitals in our EMS system. As partners in serving our community, the San Mateo County EMS system continues to enjoy collaborative and productive working relationships which enable us to successfully innovate and deliver exceptional patient care. Please do not hesitate to contact me if I may be of further assistance

Sincerely yours,



Brad White
Regional Director
American Medical Response
County of San Mateo, City and County of San Francisco

cc: Tom Wagner, AMR President West Region

San Mateo County
Pre-Hospital Emergency Medical Services Group
a Joint Powers Authority

Belmont FPD
Brisbane
Burlingame
Coastside Fire Protection District FPD
Colma Fire Protection District FPD
Daly City
Foster City
Hillsborough
Menlo Park Fire Protection District FPD
Millbrae
Pacifica
Redwood City
San Bruno
San Carlos
San Mateo
San Mateo County Fire
South San Francisco
Woodside Fire Protection District FPD

February 26, 2019

Ms. Nancy Lapolla
Director
San Mateo County Emergency Medical Services
801 Gateway Boulevard, Second Floor
South San Francisco, California

Via Electronic Mail

Re: Letter of Support – Health Information Exchange Grant Funding Opportunity

Dear Ms. Lapolla,

It is with enthusiasm that I provide this letter in support of the San Mateo County Emergency Medical Services Agency's proposal to the California Emergency Medical Services Authority (EMSA) in pursuit of grant funding to develop and implement interoperable health information exchange between 911 emergency ambulance and fire department medical first response providers and hospitals in the San Mateo County EMS system.

The San Mateo County Pre-Hospital Emergency Medical Services Group ("JPA") recognizes that EMS is an integral part of the health care system - actions taken by EMS providers at the scene and enroute to the hospital effect outcomes, quality of care and patient satisfaction. Secure, HIPAA compliant bidirectional movement of electronic patient health information with hospitals for daily emergency medical services will allow providers in the field to appropriately access and securely share a patient's vital medical information electronically, providing the following benefits:

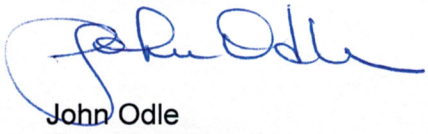
- First, Paramedics and EMTs on ambulances, and non-transport first responders, will be able to access individual patient information relevant to an emergency case to enhance clinical decision making for individual patients.
- Second, patient outcome data will be returned to EMS providers for quality and system improvement.
- Third, hospital emergency departments receiving real-time patient information from EMS providers will lead to improved clinical decision support and creating an environment where time sensitive treatments can be expedited through advance notification, such as in the areas of trauma, chest pain, or stroke.

1510 Rollins Road • Burlingame, CA 94010 • (650) 235-1244 • Fax (650) 259-9967

- Fourth, the integration of electronic pre-hospital care records into the hospital (EHR) will allow clinical care providers in both urban and rural communities across the continuum to support a more comprehensive, longitudinal, integrated patient record for seamless transitions of care.

The JPA hopes that EMSA will strongly consider awarding the San Mateo County EMS Agency funding sufficient to enable completion of the work required to link the electronic health records of EMS providers and hospitals in our EMS system. As partners in serving our community, the San Mateo County EMS system continues to enjoy collaborative and productive working relationships which enable us to successfully innovate and deliver exceptional patient care. Please do not hesitate to contact me if I may be of further assistance

Sincerely yours,



John Odle
Executive Director
San Mateo County Pre-Hospital
Emergency Medical Services Group

SAN MATEO COUNTY HEALTH
SAN MATEO MEDICAL CENTER

San Mateo Medical Center
222 W 39th Avenue
San Mateo, CA 94403
650-573-2222 T
smchealth.org/smmc

February 26, 2019

Ms. Nancy Lapolla
Director
San Mateo County Emergency Medical Services
801 Gateway Boulevard, Second Floor
South San Francisco, California

Via Electronic Mail

Re: Letter of Support – Health Information Exchange Grant Funding Opportunity

Dear Ms. Lapolla,

It is with enthusiasm that I provide this letter in support of the San Mateo County Emergency Medical Services Agency's proposal to the California Emergency Medical Services Authority (EMSA) in pursuit of grant funding to develop and implement interoperable health information exchange between hospitals and 911 emergency ambulance and fire department medical first response providers in the San Mateo County EMS system.

San Mateo Medical Center recognizes that EMS is an integral part of the health care system - actions taken by EMS providers at the scene and enroute to the hospital effect outcomes, quality of care and patient satisfaction. Secure, HIPAA compliant bidirectional movement of electronic patient health information with hospitals for daily emergency medical services will allow providers in the field to appropriately access and securely share a patient's vital medical information electronically, providing the following benefits by leveraging the San Mateo County Connected Care Health Information Exchange:

- First, hospital emergency departments receiving real-time patient information from EMS providers will lead to improved clinical decision support and creating an environment where time sensitive treatments can be expedited through advance notification, such as in the areas of trauma, chest pain, or stroke.
- Second, the integration of electronic pre-hospital care records into the hospital (EHR) will allow clinical care providers in both urban and rural communities across the continuum to support a more comprehensive, longitudinal, integrated patient record for seamless transitions of care.
- Third, Paramedics and EMTs on ambulances, and non-transport first responders, will be able to access individual patient information relevant to an emergency case to enhance clinical decision making for individual patients.

SAN MATEO COUNTY HEALTH
SAN MATEO MEDICAL CENTER

- Fourth, patient outcome data will be returned to EMS providers for quality and system improvement.

San Mateo Medical Center hopes that EMSA will strongly consider awarding the San Mateo County EMS Agency funding sufficient to enable completion of the work required to link the electronic health records of EMS providers and hospitals in our EMS system. As partners in serving our community, the San Mateo County EMS system continues to enjoy collaborative and productive working relationships which enable us to successfully innovate and deliver exceptional patient care. Please so not hesitate to contact me if I may be of further assistance

Sincerely yours,

Michael Aratow, MD, FACEP
Chief Medical Information Officer
ED Staff Physician
San Mateo Medical Center

Stanford MEDICINE | Emergency Medicine

February 26, 2019

Ms. Nancy Lapolla
Director
San Mateo County Emergency Medical Services
801 Gateway Boulevard, Second Floor
South San Francisco, California

Via Electronic Mail

Re: Letter of Support – Health Information Exchange Grant Funding Opportunity

Dear Ms. Lapolla,

It is with enthusiasm that I provide this letter in support of the San Mateo County Emergency Medical Services Agency's proposal to the California Emergency Medical Services Authority (EMSA) in pursuit of grant funding to develop and implement interoperable health information exchange between hospitals and 911 emergency ambulance and fire department medical first response providers in the San Mateo County EMS system.

Stanford Health Care recognizes that EMS is an integral part of the health care system - actions taken by EMS providers at the scene and enroute to the hospital effect outcomes, quality of care and patient satisfaction. Secure, HIPAA compliant bidirectional movement of electronic patient health information with hospitals for daily emergency medical services will allow providers in the field to appropriately access and securely share a patient's vital medical information electronically, providing the following benefits by leveraging the San Mateo County Connected Care Health Information Exchange:

- First, hospital emergency departments receiving real-time patient information from EMS providers will lead to improved clinical decision support and creating an environment where time sensitive treatments can be expedited through advance notification, such as in the areas of trauma, chest pain, or stroke.
- Second, the integration of electronic pre-hospital care records into the hospital (EHR) will allow clinical care providers in both urban and rural communities across the continuum to support a more comprehensive, longitudinal, integrated patient record for seamless transitions of care.
- Third, Paramedics and EMTs on ambulances, and non-transport first responders, will be able to access individual patient information relevant to an emergency case to enhance clinical decision making for individual patients.
- Fourth, patient outcome data will be returned to EMS providers for quality and system improvement.

Stanford Health Care hopes that EMSA will strongly consider awarding the San Mateo County EMS Agency funding sufficient to enable completion of the work required to link the electronic health records of EMS providers and hospitals in our EMS system. As partners in serving our community, the San Mateo County EMS system continues to enjoy collaborative and productive working relationships which enable us to successfully innovate and deliver exceptional patient care. Please so not hesitate to contact me if I may be of further assistance

Sincerely yours,

Patrice Callagy

Patrice Callagy, RN, MPA, MSN, CEN
Director of Emergency Services
Stanford Health Care
Pcallagy@stanfordhealthcare.org

Marc Gautreau, MD, MBA, FACEP, FAEMS
Clinical Associate Professor/Director of Pre-Hospital
Department of Emergency Medicine
Stanford University School of Medicine
Mgautreau@stanford.edu

Exhibit 2

Detailed Budget

SAN MATEO COUNTY HEALTH

San Mateo County LEMSA – +EMS Local Assistance Grant Funding Announcement

Master Budget

Partners	Health System	Vendor
American Medical Response		
San Diego Health Connect		
San Mateo County Connected Care (SMCCC)	County	Mirth
San Mateo County EMS		
San Mateo County Health IT		
Mills Peninsula Hospital	Sutter	EPIC
Sequoia Hospital	Dignity	Cerner
Seton Hospital	Verity Health	PICIS
Kaiser SSF	Kaiser	EPIC
Kaiser RWC	Kaiser	EPIC
SMMC	County	PICIS
Stanford Hospital	Stanford	EPIC
Zuckerberg-Chan General Hospital	County	EPIC

PM	$ 170	per hour
Tech/Test/Install	$ 150	per hour
Legal	$ 220	per hour
SMCCC technical	$ 200	per hour
Nurse Educator	$ 170	per hour

PROJECT BUDGET ESTIMATES

Onboarding Tasks

Cost Description	Qty	Unit Cost	Total
EMS Connector Software Licensing from SDHC to SMCCC	1	$ 30,000	$ 30,000
SDHC Hosting - set up and testing with SMCCC (*SMCCC estimate only*)	1	$ 25,000	$ 25,000

TOTAL Project Cost	$ 1,421,016
TOTAL Project Hours	5,031

TOTAL Project Cost with 20% Contingency	$ 1,705,220
TOTAL Project Hours with 20% Contingency	$ 6,037

County EMS and SMCCC complete agreements with participating hospital ED's.			
County Legal	200	$ 220	$ 44,000
AMR MEDS ePCR Development			
Technical	130	$ 150	$ 19,500
PM	30	$ 170	$ 5,100
Test / Installation	15	$ 150	$ 2,250
SMCCC with SDHC EMS Connector - set up SMCCC HIE with SDHC EMS Connector			
Technical	300	$ 200	$ 60,000
PM - 3 PMs			
SMCCC PM (expense accounted for below)			
SDHC PM	120	$ 170	$ 20,400
AMR PM	170	$ 170	$ 28,900
Test / Installation	126	$ 200	$ 25,200
Training - Nurse Educator and Analyst (expense accounted for below. see comment)			
ADDITIONAL Project Expenses - County EMS and SMCCC			
Travel expenses - SDHC PMs (2) assistance with testing and Go Live for Hospitals 1, 6, 7	6	$ 1,400	$ 8,400

Travel Expenses - SMCCC staff travel to SDHC	4	$ 1,400	$ 5,600
Travel Expenses - SMCCC to Sacramento for EMS meetings	8	$ 400	$ 3,200
Nurse Educator for 18 months	1.5	$ 171,288	$256,931
PM/Analyst - for 18 months	1.5	$ 150,150	$225,225
EPIC EMR Hospital 1			
Hospital 1 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	110	$ 170	$ 18,700
Test / Installation	28	$ 150	$ 4,200
AMR - Hospital 1			
Technical	40	$ 150	$ 6,000
PM	40	$ 170	$ 6,800
Test / Installation	28	$ 150	$ 4,200
SMCCC - Hospital 1			
Technical	48	$ 200	$ 9,600
PM	60	$ 170	$ 10,200
Test / Installation	16	$ 200	$ 3,200
SMC EMS - Hospital 1			
Technical	15	$ 150	$ 2,250
PM	20	$ 170	$ 3,400
Test / Installation	4	$ 150	$ 600

EPIC EMR Hospital 2			
Hospital 2 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	20	$ 170	$ 3,400
Test / Installation	32	$ 150	$ 4,800

AMR - Hospital 2			
Technical	10	$ 150	$ 1,500
PM	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500
SMCCC - Hospital 2			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000
SMC EMS - Hospital 2			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700
Test / Installation	10	$ 150	$ 1,500

EPIC EMR Hospital 3			
Hospital 3 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	15	$ 170	$ 2,550
Test / Installation	28	$ 150	$ 4,200
AMR - Hospital 3			
Technical	10	$ 150	$ 1,500
PM	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500
SMCCC - Hospital 3			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000
SMC EMS - Hospital 3			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700

Test / Installation	10	$ 150	$ 1,500

EPIC EMR Hospital 4			
Hospital 4 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	15	$ 170	$ 2,550
Test / Installation	28	$ 150	$ 4,200
AMR - Hospital 4			
Technical	10	$ 150	$ 1,500
PM	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500
SMCCC - Hospital 4			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000
SMC EMS - Hospital 4			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700
Test / Installation	10	$ 150	$ 1,500

EPIC EMR Hospital 5			
Hospital 5 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	15	$ 170	$ 2,550
Test / Installation	28	$ 150	$ 4,200
AMR - Hospital 5			
Technical	10	$ 150	$ 1,500
PM	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500

SMCCC - Hospital 5			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000
SMC EMS - Hospital 5			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700
Test / Installation	10	$ 150	$ 1,500

CERNER EMR Hospital 6			
Hospital 6 ED with CERNER EMR			
Technical	160	$ 150	$ 24,000
PM	60	$ 170	$ 10,200
Test / Installation	60	$ 150	$ 9,000
AMR - Hospital 6			
Technical	32	$ 150	$ 4,800
PM	16	$ 170	$ 2,720
Test / Installation	16	$ 150	$ 2,400
SMCCC - Hospital 6			
Technical	200	$ 200	$ 40,000
PM	240	$ 170	$ 40,800
Test / Installation	50	$ 200	$ 10,000
SMC EMS - Hospital 6			
Technical	8	$ 150	$ 1,200
PM	5	$ 170	$ 850
Test / Installation	16	$ 150	$ 2,400

PICIS EMR Hospital 7			
Hospital 7 PICIS EMR			

Technical	160	$ 150	$ 24,000
PM	60	$ 170	$ 10,200
Test / Installation	60	$ 150	$ 9,000
AMR - Hospital 7			
Technical	32	$ 150	$ 4,800
PM	16	$ 170	$ 2,720
Test / Installation	16	$ 150	$ 2,400
SMCCC - Hospital 7			
Technical	200	$ 200	$ 40,000
PM	240	$ 170	$ 40,800
Test / Installation	50	$ 200	$ 10,000
SMC EMS - Hospital 7			
Technical	8	$ 150	$ 1,200
PM	5	$ 170	$ 850
Test / Installation	16	$ 150	$ 2,400

PICIS EMR Hospital 8			
Hospital 8 PICIS EMR			
Technical	60	$ 150	$ 9,000
PM	85	$ 170	$ 14,450
Test / Installation	28	$ 150	$ 4,200
AMR - Hospital 8			
Technical	32	$ 150	$ 4,800
PM	16	$ 170	$ 2,720
Test / Installation	16	$ 150	$ 2,400
SMCCC - Hospital 8			
Technical	160	$ 200	$ 32,000
PM	160	$ 170	$ 27,200
Test / Installation	50	$ 200	$ 10,000

SMC EMS - Hospital 8			
Technical	8	$ 150	$ 1,200
PM	5	$ 170	$ 850
Test / Installation	16	$ 150	$ 2,400

SAN MATEO COUNTY HEALTH

San Mateo County LEMSA – +EMS Local Assistance Grant Funding Announcement

AMR PROJECT BUDGET ESTIMATES

TOTAL Project Cost	$ 129,312
TOTAL Project Hours	840

PM	$ 170	per hour
Tech/Test/	$ 150	per hour
Trainer	$ 150	per hour

Onboarding Tasks

Cost Description	Qty	Unit Cost	Total
AMR MEDS ePCR Development			
Technical	130	$ 150	$ 19,500
PM	30	$ 170	$ 5,100
Test / Installation	20	$ 150	$ 3,000
TOTAL for MEDS Development	180		$ 27,600
Staff Training - AMR and JPA staff	120	$ 150	$ 18,000
Onboarding Tasks Total	300		$ 45,600

EPIC EMR Hospital 1

AMR Hospital 1			
Technical	40	$ 150	$ 6,000
PM	40	$ 170	$ 6,800
Test / Installation	28	$ 150	$ 4,200
AMR Total Hospital 1	108		$ 17,000

EPIC EMR Hospital 2

AMR - Hospital 2			
Technical	10	$ 150	$ 1,500
PM - 3 PMs	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500
AMR Total Hospital 2	25		$ 3,850

EPIC EMR Hospital 3

AMR - Hospital 3			
Technical	10	$ 150	$ 1,500
PM - 3 PMs	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500
AMR Total Hospital 3	25		$ 3,850
EPIC EMR Hospital 4			
AMR - Hospital 4			
Technical	10	$ 150	$ 1,500
PM - 3 PMs	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500
AMR Total Hospital 4	25		$ 3,850
EPIC EMR Hospital 5			
AMR - Hospital 5			
Technical	10	$ 150	$ 1,500
PM - 3 PMs	5	$ 170	$ 850
Test / Installation	10	$ 150	$ 1,500
AMR Total Hospital 5	25		$ 3,850
CERNER EMR Hospital 6			
AMR - Hospital 6			
Technical	32	$ 150	$ 4,800
PM	16	$ 170	$ 2,720
Test / Installation	16	$ 150	$ 2,400
AMR Total Hospital 6	64		$ 9,920
PICIS EMR Hospital 7			
AMR - Hospital 7			
Technical	32	$ 150	$ 4,800
PM	16	$ 170	$ 2,720
Test / Installation	16	$ 150	$ 2,400
AMR Total Hospital 7	64		$ 9,920

PICIS EMR Hospital 8			
AMR - Hospital 8			
Technical	32	$ 150	$ 4,800
PM	16	$ 170	$ 2,720
Test / Installation	16	$ 150	$ 2,400
AMR Total Hospital 8	64		$ 9,920
Subtotal AMR Expenses Budgeted	700		$ 107,760
Contingency 20%	140		$ 21,552
TOTAL AMR Expenses Budgeted	**840**		**$ 129,312**

SAN MATEO COUNTY HEALTH

San Mateo County LEMSA – +EMS Local Assistance Grant Funding Announcement

HOSPITAL PROJECT BUDGET ESTIMATES

EPIC EMR Hospital 1			
Hospital 1 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	110	$ 170	$ 18,700
Test / Installation	28	$ 150	$ 4,200
TOTAL	223		$ 35,650

EPIC EMR Hospital 2			
Hospital 2 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	20	$ 170	$ 3,400
Test / Installation	32	$ 150	$ 4,800
TOTAL	137		$ 20,950

EPIC EMR Hospital 3			
Hospital 3 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	15	$ 170	$ 2,550
Test / Installation	28	$ 150	$ 4,200
TOTAL	128		$ 19,500

EPIC EMR Hospital 4			
Hospital 4 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	15	$ 170	$ 2,550
Test / Installation	28	$ 150	$ 4,200
TOTAL	128		$ 19,500

PM	$ 170	per hour
Tech/Test/Install	$ 150	per hour
Legal	$ 220	per hour
SMCCC technical	$ 200	per hour
Nurse Educator	$ 170	per hour

Hospital Total Dollars	$ 229,150
Hospital Total Hours	1,477

EPIC EMR Hospital 5			
Hospital 5 ED with EPIC EMR			
Technical	85	$ 150	$ 12,750
PM	15	$ 170	$ 2,550
Test / Installation	28	$ 150	$ 4,200
TOTAL	128		$ 19,500

CERNER EMR Hospital 6			
Hospital 6 ED with CERNER EMR			
Technical	160	$ 150	$ 24,000
PM	60	$ 170	$ 10,200
Test / Installation	60	$ 150	$ 9,000
TOTAL	280		$ 43,200

PICIS EMR Hospital 7			
Hospital 7 PICIS EMR			
Technical	160	$ 150	$ 24,000
PM	60	$ 170	$ 10,200
Test / Installation	60	$ 150	$ 9,000
TOTAL	280		$ 43,200

PICIS EMR Hospital 8			
Hospital 8 PICIS EMR			
Technical	60	$ 150	$ 9,000
PM	85	$ 170	$ 14,450
Test / Installation	28	$ 150	$ 4,200
TOTAL	173		$ 27,650

SAN MATEO COUNTY HEALTH

San Mateo County LEMSA – +EMS Local Assistance Grant Funding Announcement

SMCCC PROJECT BUDGET ESTIMATES

Onboarding Tasks			
Cost Description	**Qty**	**Unit Cost**	**Total**
County EMS and SMCCC complete agreements with participating hospital ED's.			
County Legal	200	$ 220	$ 44,000
SMCCC with SDHC EMS Connector - set up SMCCC HIE with SDHC EMS Connector			
Technical	300	$ 200	$ 60,000
PM - 3 PMs			
SMCCC PM (expense accounted for below)			
SDHC PM	120	$ 170	$ 20,400
AMR PM	170	$ 170	$ 28,900
Test / Installation	126	$ 200	$ 25,200
Training - Nurse Educator and Analyst (expense accounted for below. see comment)			
ADDITIONAL Project Expenses - County EMS and SMCCC			
Travel Expenses - SMCCC staff travel to SDHC	4	$ 1,400	$ 5,600
Travel Expenses - SMCCC to Sacramento for EMS meetings	8	$ 400	$ 3,200

TOTAL Project Cost	$ 1,004,056
TOTAL Project Hours	2,745

PM	$ 170	per hour
Tech/Test/Install	$ 150	per hour
Legal	$ 220	per hour
SMCCC technical	$ 200	per hour
Nurse Educator	$ 170	per hour

Nurse Educator for 18 months	1.5	$ 171,288	$256,931
PM/Analyst - for 18 months	1.5	$ 150,150	$225,225
EPIC EMR Hospital 1			
SMCCC - Hospital 1			
Technical	48	$ 200	$ 9,600
PM	60	$ 170	$ 10,200
Test / Installation	16	$ 200	$ 3,200
EPIC EMR Hospital 2			
SMCCC - Hospital 2			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000
EPIC EMR Hospital 3			
SMCCC - Hospital 3			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000
EPIC EMR Hospital 4			
SMCCC - Hospital 4			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000
EPIC EMR Hospital 5			
SMCCC - Hospital 5			
Technical	15	$ 200	$ 3,000
PM	60	$ 170	$ 10,200
Test / Installation	10	$ 200	$ 2,000

CERNER EMR Hospital 6			
SMCCC - Hospital 6			
Technical	200	$ 200	$ 40,000
PM	240	$ 170	$ 40,800
Test / Installation	50	$ 200	$ 10,000
PICIS EMR Hospital 7			
SMCCC - Hospital 7			
Technical	200	$ 200	$ 40,000
PM	240	$ 170	$ 40,800
Test / Installation	50	$ 200	$ 10,000
PICIS EMR Hospital 8			
SMCCC - Hospital 8			
Technical	160	$ 200	$ 32,000
PM	160	$ 170	$ 27,200
Test / Installation	50	$ 200	$ 10,000

SAN MATEO COUNTY HEALTH

San Mateo County LEMSA – +EMS Local Assistance Grant Funding Announcement

EMS PROJECT BUDGET ESTIMATES

TOTAL Project Cost	$ 38,600
TOTAL Project Hours	234

TOTAL Project Cost with 20% Contingency	$ 46,320
TOTAL Project Hours with 20% Contingency	$ 281

PM	$ 170	per hour
Tech/Test/Install	$ 150	per hour
Legal	$ 220	per hour
SMCCC technical	$ 200	per hour
Nurse Educator	$ 170	per hour

Onboarding Tasks

Cost Description	Qty	Unit Cost	Total
ADDITIONAL Project Expenses - County EMS and SMCCC			
Travel Expenses - SMC EMS to Sacramento for EMS meetings	8	$ 400	$ 3,200
EPIC EMR Hospital 1			
SMC EMS - Hospital 1			
Technical	15	$ 150	$ 2,250
PM	20	$ 170	$ 3,400
Test / Installation	4	$ 150	$ 600
EPIC EMR Hospital 2			
SMC EMS - Hospital 2			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700
Test / Installation	10	$ 150	$ 1,500
EPIC EMR Hospital 3			
SMC EMS - Hospital 3			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700
Test / Installation	10	$ 150	$ 1,500

EPIC EMR Hospital 4			
SMC EMS - Hospital 4			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700
Test / Installation	10	$ 150	$ 1,500

EPIC EMR Hospital 5			
SMC EMS - Hospital 5			
Technical	5	$ 150	$ 750
PM	10	$ 170	$ 1,700
Test / Installation	10	$ 150	$ 1,500

CERNER EMR Hospital 6			
SMC EMS - Hospital 6			
Technical	8	$ 150	$ 1,200
PM	5	$ 170	$ 850
Test / Installation	16	$ 150	$ 2,400

PICIS EMR Hospital 7			
SMC EMS - Hospital 7			
Technical	8	$ 150	$ 1,200
PM	5	$ 170	$ 850
Test / Installation	16	$ 150	$ 2,400

PICIS EMR Hospital 8			
SMC EMS - Hospital 8			
Technical	8	$ 150	$ 1,200
PM	5	$ 170	$ 850
Test / Installation	16	$ 150	$ 2,400

Exhibit 3

Detailed Project Plan

SAN MATEO COUNTY HEALTH

San Mateo County LEMSA – +EMS Local Assistance Grant Funding Announcement

Task Name	Duration	Start	Finish	Receiving Hospital	
STRUCTURE Onboarding	**469 days**	**6/3/2019**	**3/18/2021**		
Onboarding Structure Milestone Metric 1- Develop and execute participation agreements for each of the identified participants: Ambulance Providers, Hospitals and SMCCC HIE as outlined in Chart A & Chart B.	**65 days**	**6/3/2019**	**8/30/2019**		
POLST Milestone Metric 1-Onboarding of SMCC HIE that have POLST forms or information	**65 days**	**6/3/2019**	**8/30/2019**		
POLST Milestone Metric 2 Connectivity to and Incorporation of POLST information sources including a POLST SMCC HIE which will contain this information if available.	**66 days**	**7/1/2019**	**9/30/2019**		
Onboarding Structure Milestone Metric 2- 80% of Emergency Ambulance Providers and JPA's Connections are established enabling SEARCH and ALERT functions with ePCR enabling transmission to the dashboards of participating hospitals.	**66 days**	**7/1/2019**	**9/30/2019**		
POLST Milestone Metric 3-Enable ePCR interfaces to be "POLST-Ready"	**66 days**	**7/1/2019**	**9/30/2019**		
Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital #1 TBD	**50 days**	**9/16/2019**	**11/22/2019**		
Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital #2 TBD	**40 days**	**11/18/2019**	**1/10/2020**		
Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital #3 TBD	**34 days**	**1/14/2020**	**2/28/2020**		
Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital #4 TBD	**32 days**	**3/2/2020**	**4/11/2020**		
Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital #5 TBD	**32 days**	**4/13/2020**	**5/26/2020**		
Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital # 6 TBD	**40 days**	**6/1/2020**	**7/20/2020**		
Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital #7 TBD	**40 days**	**7/24/2020**	**9/17/2020**		

Onboarding Structure Milestone Metric 4-Successful Testing of required functionality for SEARCH, ALERT, FILE and RECONCILE functions for Hospital #8 TBD	**40 days**	**9/14/2020**	**11/6/2020**		
Onboarding Structure Milestone Metric 3- 50% (Threshold has 80%) of EMS Receiving Hospitals Connections are established	**253 days**	**10/1/2019**	**9/17/2020**		
Report of Onboarding Structure Milestone Metric 1			**9/6/2019**		
Report of Onboarding Structure Milestone Metric 2			**10/4/2019**		
Report of Onboarding Structure Milestone Metric 3			**9/25/2020**		
Report of Onboarding Structure Milestone Metric 4			**11/13/2020**		
Report of POLST Milestone Metric 1			**9/6/2019**		
Report of POLST Milestone Metric 2			**10/4/2019**		
Report of POLST Milestone Metric 3			**10/4/2019**		
Structure Onboarding Phase Complete	**375 days**	**6/3/2019**	**11/6/2020**		
SEARCH	**158 days?**	**8/1/2019**	**3/9/2020**		
SEARCH-Adoption Phase: Milestone 1. Successful testing of SEARCH functionality with at least 10% patient match and retrieval of health information. This will be demonstrated by searching for the patient, finding a patient match and retrieving from the HIE	**43 days**	**8/1/2019**	**11/22/2019**		
SEARCH-Exchange Phase: Milestone 2. Demonstrate SEARCH functionality with minimum of 50% usage and 30% match success, or retrieval success, by paramedics of the identified pre-hospital patients for three consecutive months (Measured on a monthly basis).	**417 days**	**8/1/2019**	**3/5/2021**		
SEARCH-Exchange Phase: Milestone 3. 10 % of CCD Returned during use of SEARCH functionality.). The 10% patient match threshold will increase over time as more patient data is obtained with the onboarding of the receiving hospitals within the SMCC HIE.			**2/28/2020**		
SEARCH-Exchange Phase: Milestone 4. 1 % of POLST Record Returned (EMS & Hospital) during use of SEARCH functionality			**Fri 2/28/20**		
Report of SEARCH-Adoption Phase: Milestone Metric 1			**12/7/2019**		
Report of SEARCH-Exchange Phase: Milestone Metric 2			**3/5/2021**		
Report of SEARCH-Exchange Phase: Milestone Metric 3			**3/6/2020**		
Report of SEARCH-Exchange Phase: Milestone Metric 4			**5/1/2020**		
Search Phase Complete			**3/5/2021**		
ALERT	**328 days**	**10/1/2019**	**12/31/2020**		
Exchange Phase:Outcome/Milestone 1. Transmission of 80% of eligible records (on patients to be transported to a defined hospital) from the field to the emergency department during ALERT phase.	**328 days**	**10/1/2019**	**12/31/2020**		
Exchange Phase:Outcome/Milestone 2: 80 % Usage Dashboard Display at the participating hospitals ED's (HIE MU Stage 3 (M3) 80% Required ** notated on Threshold on pg 15)-	**328 days**	**10/1/2019**	**12/31/2020**		

Exchange Phase:Outcome/Milestone 3-Participating hospitals ED's will evaluate Clinical Decision Support MU Stage 3 (M2) with Drug-Drug and Drug-Allergy interactions (No Defined Thresholds metrics pg 15 and not under payments pg 17)	**328 days**	**10/1/2019**	**12/31/2020**		
Report of ALERT Milestone Metric 1			**1/8/2021**		
Report of ALERT Milestone Metric 2			**1/8/2021**		
Report of ALERT Milestone Metric 3			**1/8/2021**		
Alert Phase Complete			**1/8/2021**		
FILE	**354 days**	**11/30/2019**	**4/7/2021**		
Interoperability Phase Milestone Metric 1-Demonstrate FILE functionality with minimum of 40% usage per record (on transported patients to a defined hospital) for 3 consecutive months (measured on a monthly basis).	**331 days**	**11/30/2019**	**3/5/2021**		
Report of FILE Interoperability Milestone Metric 1			**3/5/2021**		
FILE Phase Complete			**3/5/2021**		
RECONCILE	**327 days**	**11/30/2019**	**2/28/2021**		
Interoperability Phase: Milsetone Metric 1- 40% of Records (ADT and hospital discharge summaries) returned to ePCR System. Demonstrate RECONCILE functionality with minimum of 40% usage per record (on transported patients) for 3 consecutive months (measure	**262 days**	**3/1/2020**	**2/28/2021**		
Report of Reconcile Milestone Metric 1			**3/5/2021**		
Reconcile Phase Complete			**3/5/2021**		
DATA & PROSED ANALYTICS	**488 days**	**2/28/2020**	**6/30/2021**		
Percentage Patient Match – Percentage of instances of correct matching via the HIE when a patient exists in both prehospital and hospital records.	**488 days**	**2/28/2020**	**6/30/2021**		
Percentage Match of Ambulance Primary Impression to Hospital Discharge Diagnosis – Percentage match of prehospital ambulance primary impression with hospital discharge diagnosis.	**488 days**	**2/28/2020**	**6/30/2021**		
Percentage Match of First Responder Primary Impression to Hospital Discharge Diagnosis – Percentage match of prehospital first responder primary impression with hospital discharge diagnosis.	**488 days**	**2/28/2020**	**6/30/2021**		
Percentage of Patients Transported to Emergency Department and Admitted – Percentage of patients transported to an emergency department and admitted to that hospital.	**488 days**	**2/28/2020**	**6/30/2021**		
Percentage of Patients Transported to Emergency Department and Discharged – Percentage of patients transported to an emergency department and discharged from that hospital.	**488 days**	**2/28/2020**	**6/30/2021**		
Percentage of Patients Transported to Emergency Department and Transferred – Percentage of patients transported to an emergency department and transferred to another acute care hospital associated with the same episode of care.	**488 days**	**2/28/2020**	**6/30/2021**		

Percentage of Opioid Overdose – Percentage of prehospital overdose primary impression match with overdose hospital discharge diagnosis when two or more doses of naloxone are administered in the prehospital setting.	**488 days**	**2/28/2020**	**6/30/2021**		
Percentage of Billing Information Acquisition via the HIE – Percentage of patient transports for which an ambulance provider obtains returned and hospital verified billing information via the HIE.	**488 days**	**2/28/2020**	**6/30/2021**		
Report of DATA & ANALYTICS Milestone Metric 1-Evaluate and report usage during the SEARCH and ALERT and the FILE and RECONCILE phases on monthly basis.	**396 days**	**9/1/2019**	**3/5/2021**		
Data & Analytics Phase Complete			**6/30/2021**		