

AWARD SUBMISSION
* indicates required fields

Step 1 of 3

Full Name*

Organization Name*

Primary Contact Email*

Business Address

City, State, Zip

Business Phone Number*

Website*

Number of Annual Service Requests*

Number of Ambulances*

Business Type (mark all that apply)*
 Business Sole Proprietorship Partnership
 Privately-Held Corporation Publicly-Held Corporation Non-Profit Corporation
 Government City/County/Community Fire Department Volunteer Police Department
 Hospital-Owned EMS Authority Other

Project Participants* Please provide the names, job titles, and email addresses of individuals involved in the project

James Pierson, President/COO, Medic Ambulance Service

Robb Herrick, Battalion Chief, Fairfield Fire Department,
rherrick@fairfield.ca.gov

Heather Venezia, ED/Trauma Director, NorthBay Healthcare,
hvenezio@northbay.org

Step 2 of 3

- Entry Category*
- Community Impact Program (open to any community-based program)
 - Clinical Outcome Project
 - Innovation in EMS
 - Employee Programs

Situational Analysis* Please provide a brief background for your project.

In the USA, sudden cardiac arrest is one of the leading causes of death accounting for about 350,000 deaths per year which is greater than 11% of all annual deaths. The only more common causes of death are all forms of heart disease combined and all forms of cancer combined. After a sudden cardiac arrest event occurs the haste in receiving appropriate interventions is the most important influence in overcoming the otherwise 95% fatality rate.

Medic Ambulance Service has been family owned and serving the local community of Solano County California since 1979. Our citizens always come first; after all, they are our family, friends, neighbors, and the friendly faces we pass in the grocery store. We understand that when our crews arrive on scene that bystanders are relieved and that top-quality EMS professionals, training, and equipment are being employed. Knowing that even seconds matter is the backbone to our continuous 99+% response time compliance. However, it's not enough for us to just follow the protocol and do CPR as needed. We needed to find a new approach to how we treat cardiac arrest in our community. We as providers wanted to ensure our patients and team members are being provided with the industry standard knowledge and tools to succeed. There are many models across the US which have shown positive outcomes, and it was a charge to use this industry best practices in our community.

Beginning in January 2018, Medic and Fairfield Fire Department engaged in a clinical outcome project with the goal of improving survival rates and Return of Spontaneous Circulation (ROSC). As agencies our operational and clinical leaders began to meet to review our data and where we can impact change. We reached out to the only receiving hospital for the City of Fairfield, NorthBay Healthcare and asked if they wanted to be part of this outcome project team. NorthBay energetically agreed to be a part of the team and the solution. We all agreed to send representatives to the Resuscitation Academy put on by Seattle Fire to learn the team approach and physiological understanding of why the approach is successful. Basically, it boils down to high quality CPR, minimal pauses and community approach to CPR. From the point of call to on scene to transport to arrival at the hospital.

Project Goals*

Please clearly state the goals of your project.

1. Improve Cardiac Arrest Survival and Return of Spontaneous Circulation (ROSC) rates.
2. Improve Fire and Private EMS team approach to high quality pit crew approach when treating patients in Cardiac Arrest.
3. Deploy LUCAS 3 Devices in all Fire engines and Medic Supervisor vehicles.
4. Ensure Pre-Arrival Instructions are done on all Cardiac Arrest Calls.
5. Increase public awareness as a coalition (Northbay, Medic and Fairfield Fire) about the life-saving advantages of early intervention targeting cardiac chain of survival

Planning & Implementation*

Briefly describe your process from the planning phase, including research, through implementation phases. Include the overall length of your project in weeks/months.

As the Coalition came together, we agreed on an approach to setup monthly meetings to review and plan the implementation of the project. Our goal was a March 1, 2019 go live date with all aspects of the project. The program includes sharing cardiac arrest related data, increasing public awareness, educating the public on bystander CPR, AED use and implementing High Performance CPR training with our fire and ambulance crews. We broke out our planning in 3 phases. Dispatch, Operations, and Community Education. The dispatch component was to ensure a rep from our coalition was working directly with Fairfield PSAP to ensure pre-arrival instructions were always done on cardiac arrest calls. Fairfield PSAP is not an accredited EMD Center but does have EMD Certified dispatchers who use card sets. As part of our QA/planning process all calls with Cardiac Arrest would be reviewed to the committee to ensure pre-arrivals were done. As part of our Operations planning, we set dates for key administration and field personnel to attend the Resuscitation academy. As that became complete, we collaboratively agreed to incorporate mechanical CPR devices into our system to ensure high quality CPR was being done. Medic, Fairfield and NorthBay Healthcare committed to \$177,000.00 purchase of LUCAS 3 CPR Devices. This was done after a lengthy analysis of both the LUCAS 3 and the AutoPulse. During the Implementation phase, all Medic Ambulance and Fairfield Fire Department Staff were trained together on both the pit-crew approach and the LUCAS 3 device. We collaboratively trained on how mock code scenarios working to get the device on quickly and decreasing the number of pauses during the treatment. Ambulance and Fire crews did scenarios on the floor of the apparatus bays unannounced to simulate a real time scenario. The operational commitment by both Fairfield Fire and Medic was paramount to the successful trainings. Our QA teams also created a post call QA review sheet analyzing key metrics from the call, such as pre-arrival instructions, LUCAS placement, CPR data from LUCAS 3 devices and feedback from the lead paramedics who ran the call. Additionally, the raw data from the LUCAS 3 device

and each agencies PCR as well as the outcome data from NorthBay is all shared with coalition members. This has ensured that as the program continues from implementation to live the coalition will be working on the retrospective data to ensure positive outcomes. The third phase to our implementation and planning was community education. Medic, Fairfield Fire and NorthBay all have robust community outreach programs, but our goal was to combine efforts as it relates to community education regarding CPR. Our data showed our bystander CPR for in home cardiac arrest was very poor. Less than 10% received CPR in witnessed events prior to EMS arrival. We knew pre-arrival instructions could help but also public education. The coalition created CPR kiosk which turned CPR into a game. The kiosk was created by a Fairfield Firefighter with donations by Medic and NorthBay to help fund the project. For less than \$2,000.00 the kiosk was created and is used at public events around the City of Fairfield.

Results* Did you achieve your goals? How did you measure results?

All Field staff for Medic and Fairfield Fire were trained and the LUCAS 3 devices were implemented on March 1, 2019. Seven LUCAS 3 devices were placed on 7 Fire Engines and 2 were placed on Medic Ambulance Supervisor vehicles. Our agencies have seen a significant increase in ROSC patients since the trail began. Also, we have received positive remarks from both Fire and Medic field staff on the collaborative approach to pit-crew CPR. We have had no failures while operating the LUCAS 3 device in the field and the application time is on average less than 30 seconds, with little to no pauses. The QA Teams within the coalition work together post call to review all aspects of the call and fill out the programs post call QA form. Data is measured using the QA form, the data delivered via the LUCAS 3 Device, Cardiac Monitor data and the patient care report. The LUCAS 3 report is extensive and gives a detailed breakdown of the CPR provided. The monitor reports from both ZOLL and Physio monitors is also just as detailed and gives a thorough review of the call.

We have **had a total of 8 patients** from March 1, 2019 to August 31, 2019 experience Return of Spontaneous Circulation or ROSC, as compared to **3 patients during** the same time frame last year. That is a 166% improvement compared to the prior to year. Within this service area our community now experiences Return of Spontaneous Circulation or ROSC of over 24% which is over four times the average national rate for outside of a hospital setting, which is fewer than 6%. The rate of survival to the hospital in Medic's service area for a cardiac arrest out of the hospital is equal to the 24% survival rate of patient's that experience a cardiac arrest in a hospital setting. It stands to reason that the time to react and the means of intervention in the hospital setting will on average always be advantageous over the conditions and logistics of out of the hospital care. Medic and NorthBay both employ full time Educational staff who are actively involved with teaching health professionals and the community members at large

how to recognize and appropriately intervene to emergency events, particularly respiratory and cardiac distress or arrest events prior to EMS arrival. Medic teaches hundreds of community members how to effectively perform CPR, each year. Medic, NorthBay and Fairfield Fire employ numerous American Heart Association (AHA) CPR instructors to ensure great access to ongoing renewal and refresher training for all employees, firefighters, local healthcare workers, and the community at large. Several times, every year instructors from coalition agencies are sent to community events to teach CPR, recognition of an emergency and how to respond, and act as ambassadors for careers in EMS.

Impact* What impact has this project had on your service? (Information can be given as narrative. However, if possible, please provide qualitative and quantitative information.)

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Fairfield Fire Chief Tony Velasquez said this three-way partnership was aimed at "providing even higher levels of service than we already have."

"We absolutely save lives with these," said NorthBay Healthcare Chief Medical Officer Seth Kaufman. Dr. Kaufman, said he has been impressed by seeing the LUCAS machine in action and has great hopes for them. "Quality chest compressions done as quickly as possible will improve survival," he said.

Fire Captain Rob Herrick said "We've had great success already with the quality of compressions that they've delivered," "With this collaboration between us, Medic Ambulance and NorthBay, we're going to be sharing the data collected from these machines and continually look to find ways to improve our patient care, which ultimately will increase our community's chance of survival if they were to suffer from sudden cardiac arrest," he said.

Budget* Did you have a budget? Budget numbers can be provided as a percentage of overall operating or departmental budget.

\$177,000.00 used to Purchase the LUCAS 3 DEVICES. All other costs borne by involved agency. And not part of the program budget and controlled by program.

\$71,000.00 - Medic Ambulance Service

\$71,000.00 - Fairfield Fire Department

\$35,000.00 - NorthBay Healthcare

Step 3 of 3

Supporting Documents* Do you have supporting documentation for your entry (i.e. pictures, presentations, reports, etc)? Provide links in the text field or use this link to our [Dropbox](#).

<https://www.fairfieldsuisunchamber.com/news/details/medic-ambulance-fairfield-fire-department-northbay-healthcare-deploy-automated-cpr-devices>

<https://www.thereporter.com/2019/03/19/fairfield-fire-department-unveils-new-cpr-device/>

<https://www.dailyrepublic.com/all-dr-news/solano-news/fairfield/fairfield-medic-northbay-up-game-in-saving-heart-attack-victims/>

<https://www.dailyrepublic.com/all-dr-news/solano-news/fairfield/fairfield-fire-medic-ambulance-expand-arsenals-of-advanced-cpr-devices/>

<https://www.fairfield.ca.gov/civicax/filebank/blobdload.aspx?BlobID=17178>

<https://www.youtube.com/watch?v=DwwMhqrEbCQ>

<https://www.facebook.com/firefairfieldca/videos/405922070223560/UzpfSTk2NjE2NzYzMDEyMDoyMTY2MDY2MjMwMTI3MjQ4/>

Comments/
Questions:

NOTE: You will receive an invoice within 5 business days of your transaction. CAASEA entry in the ambulance service category is \$100 for current CAA members. Non-member entries are \$500 per entry. If you have any further supporting documentation, please provide that in the link you will receive in your confirmation email.