



Presentation Title: Reducing Community Risk with Emergency Response

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Anaheim Fire & Rescue

I. Formative Evaluation – Planning

Anaheim Fire and Rescue of Anaheim, California, began the strategic planning process asking three critical questions, how do we become more competitive in the future, create value added service for the customer beyond the 911 call, and re-engineer and retool our profession in the future?

In 2012, the Orange County Grand Jury's final report identified that the fire and emergency medical response model needed to be evaluated. According to the 2014 National 911 Progress Report the number of 911 calls in 2014 in California was 23,763,398 with a total cost of \$119,022,000. The Affordable Health Care Act triggered an increased realization that all healthcare organizations, including emergency medical services and fire departments in California, have an integrated and shared responsibility for providing patient care to improve the health of individuals and communities, while reducing costs. This Population Health Management model works to find and prevent at the root cause of a disease long before hospitalization is needed.

II. Process Evaluation – Implementation

Examples from around the country were reviewed including a study of Mesa, AZ to improve response capabilities, improve patient outcomes, and reduce expenses for medical treatment. The CARES unit was created. The unit is staffed with a paramedic and a nurse practitioner that can provide medical treatments in the field.

A Community Care Response Unit combines an Advance Provider, in this case a Nurse Practitioner, and a Fire Captain Paramedic in the field, in a non-transport response vehicle. This provides a higher level of care (BLS, ALS, and clinic level services) in the field and reduces emergency department transports. This innovative concept of patient care within the Emergency Medical Service keeps Advanced Life Support and Basic Life Support units available for medical emergencies needing their specific training. The Nurse Practitioner and paramedic provide definitive care on the scene and respond to all low-acuity calls.

During the study period there were 1709 dispatches, treating 554 patients, and an average of 23 calls per month of which 9.31% were for repeat calls. The top diagnoses were for lacerations, anxiety, weakness, abdominal pain and nausea. Procedures ranged from education, to wound care, and making appointments for patients at other facilities.

III. Impact Evaluation – Short-Term Results

- The availability of advanced life support units dramatically increased and the number of transports to the emergency room decreased.
- 83% of ALS units were released after the CARES unit responded.
- ALS units were released in 84.3% of all patients
- 56% of patients were NOT transported to the emergency department
- 51% were treat and release, 42% were transported basic life support, 2% ALS and 5% referred for an appointment

IV. Outcome Evaluation – Long-Term Results

May 2015 – May 2017 Summary of Data

- ALS units were released in 84.3% of all patients after CCRU responded
- 56% of patients were NOT transported to the emergency department
 - 51% treat and release, 42% transported BLS, 2% ALS, 5% referred for appointment, transported by private vehicle or transferred to police custody.
 - When they were NOT transported, diagnoses were generally Laceration or Anxiety
 - When they were transported, it was generally for complaints of Anxiety, Pain, Confusion, Emesis, ETOH, Hyperglycemic, Infection, Respiratory issues, abdominal pain, or weakness
- \$280,410 potential cost savings using Medicare costs &
- \$580,955 potential cost savings using provider billing amounts
- 523 potential emergency bed time hours saved (time patient is in the emergency room)

Recommendations for others:

This type of program provides an example that may be added to a growing body of evidence nationally about how changes in emergency response can improve efficiencies, and reduce medical expenses. The partnership created with Kaiser Permanente demonstrates how a relationship between the fire service and the medical community can manage medical treatments in more efficient ways thereby demonstrating how these partnerships may help identify ongoing funding sources that benefit the fire service, the medical providers, and the communities we serve.

Conclusions:

The impact to hospitals and emergency medical services from low-acuity calls can be greatly reduced by responding in a partnering unit. A paramedic and a nurse practitioner that can provide medical treatments in the field can respond to low-acuity calls, releasing Advanced Life Support units and preventing emergency department visits. The majority of the low-acuity calls seen in Anaheim were for low-income and homeless clients. This response model provided treatment at a lower cost and greater efficiency.