UPDATES FROM SAN FRANCISCO DPH EMSA

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EMS Administrator

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Medical Director
Accomplishments from 7-1-2017

- Staff training/hiring
- Office move
- Activations
- EMS trainings
- Policies
- New medial plan app
- Ambulance inspections
San Francisco EMS System Overview

- Commuter Adjusted Population 1,046,818, night time population 884,363
- 2018 911 EMS Call Volume 114,808 – transported 88,625
- 2080 EMT’s, 554 Paramedics
- 500 Cardiac Arrests – 240 Utstein Criteria
- 600 Pre- Hospital STEMI Cases
1.2 million Americans die each year associated to heart disease, 250,000 of those deaths occur outside the Hospitals and are witnessed, sudden and unexpected.

If recognized and treated early with High quality CPR and early defibrillation it will increase the chance of survival.
2020-50- 50% Pre-Hospital Cardiac Arrest Survival

- 14% decline in pre-hospital cardiac arrest survival in the last 4 years
- 24% of all cardiac arrest receive citizen CPR
- Public access defibrillators are used in 5% of all cardiac arrest in San Francisco
Importance of public CPR & PAD

Return of spontaneous circulation (ROSC)

National data
Importance of public CPR & PAD

Return of spontaneous circulation (ROSC)

- Bystander AED: 64% sustained ROSC, 63% survived to admission, 49% survived to discharge
- First Responder: 49% sustained ROSC, 47% survived to admission, 28% survived to discharge
- Responding EMS: 49% sustained ROSC, 47% survived to admission, 27% survived to discharge
CPR and survival rate

![Bar chart showing survival chance percentage against minutes to defibrillation. The survival chance decreases significantly after 5 minutes.]
San Francisco CPR Performance

Depth: Adult Target (2.8 - 4.0 in) 40% in target depth  Average CPR depth: 1.9 in

Rates Target (100 - 120 bpm) 34% in target rate  Average CPR rate: 122 bpm

Compressions in target 17% Compressions in target

Release velocity trend: Target (400 - mm/s)  Average release velocity: 376 mm/s
Provide equal access to services and decrease health disparities

- Citizen CPR education and training
- AED placement in the community
- 911 Dispatcher CPR recognition and training
- PulsePoint
- Standardized equipment and training
- Cardiac case review
- Research driven policy and protocol revision
STEMI Time Line 2020-60 Pre-Hospital STEMI Patients reperfusion in 60 Minutes of First Medical Contact (FMC)

<table>
<thead>
<tr>
<th>Measure of Interest</th>
<th>Event</th>
<th>Main Data Point</th>
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<tbody>
<tr>
<td>Amount of time from symptom onset to 911 call</td>
<td>Symptom Onset</td>
<td>First Responder Report of Symptoms Onset</td>
</tr>
<tr>
<td>Amount of time from 911 call to Dispatch Response</td>
<td>911 Call Placed</td>
<td>Time Call Created</td>
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<tr>
<td>Amount of time from Dispatch Response to First Responder/ Ambulance Request</td>
<td>Call Received by 911 Dispatch</td>
<td>Time Call Received</td>
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<td>Amount of time from First Responder/ Ambulance Request to time at patient side</td>
<td>First Responder and Ambulance Dispatched</td>
<td>Time First Responder Arrive On Scene</td>
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<tr>
<td>Amount of time from patient side to time 12-Lead Transmitted</td>
<td>12-Lead ECG and Pre-Hospital Interventions Completed</td>
<td>Time 12-Lead Completed</td>
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<tr>
<td>Amount of time from 12-Lead Transmitted to Time Patient Arrives at Emergency Room</td>
<td>12-Lead ECG Transmitted to Receiving Emergency Department</td>
<td>Time 12-Lead Transmitted</td>
</tr>
<tr>
<td>Amount of time from Arrival at Emergency Room to Time Rep erfusion Completed</td>
<td>Patient Arrives at Emergency Department</td>
<td>Time Patient Arrives at Emergency Room</td>
</tr>
<tr>
<td></td>
<td>Reperfusion Therapy</td>
<td>Time Rep erfusion Therapy Completed</td>
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</tbody>
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The longer it takes for a person experiencing chest pain to be transported from their home to an Emergency Department be reperfused = worst health outcomes.
Why 60 minutes?
Provide equal access to services and decrease health disparities

- Public education on symptoms of cardiovascular disease
- Standardized equipment and training
- Pre-Hospital 12 lead acquisition and transmission
- Minimize Hospital delay in intervention
- STEMI case review
- Research driven policy and protocol revision
Challenges to the EMS System

- Standardization of regional EMS training
- Spread of High Performance CPR
- Medical Documentation improvements
- Hospital Diversion - Patient distribution
- Decision quality supported by data science
- Completion of EMSA staffing and training
THANK YOU!