Philosophy of Five:
Using performance improvement to unify a system

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Austin-Travis County EMS
Nothing is more important than the republic!
If you’ve seen one EMS system.....

you’ve seen one EMS system

- Unknown
The System: The Players

- The transport agency (ATC EMS)
- Austin FD
- Emergency Service Districts (ESD) x 13
- Corporate First Responders
  - Industrial Safety
  - Municipal Agencies
  - Volunteer
..... and the

Office of the Medical Director
The OMD

• Freestanding office

• Provides medical direction to roughly 2k providers

• Control exists through credential of provider
Pros and Cons

• Pros
  – Clearly defines mission
  – Duty to serve the public
  – Duty to serve all the providers
  – Independent identity
Pros and Cons

• Cons
  – Independent identity
  – You are **accused** of being in bed with everyone
  – You are **actually** in bed with no-one
  – Like sex….may be difficult to achieve consensus

......A familiar figure?
You will yield to my will!
Without Direction

• Politically motivated worship of false deities
  – Response times
  – Skills targeted care

• Loss of unified clinical focus

• Loss of cohesion as a system
Needed a Plan

• Target for performance improvement
• Focus the system on clinical issues
• Oppose political pressure on response times
• Framework for education

• Create a “Movement”
Back to Basics

• What defines EMS from the public perspective

• What conditions generate the 5-10 % of our EMS patients who are really sick

• What things must we be able to do well
Developed a list...the “Essential 8”

- STEMI
- Stroke
- Trauma
- Asthma
- COPD
- CHF
- Anaphylaxis
- Cardiac Arrest
Something wasn’t right

“Not eight……FIVE!”
“Philosophy of Five”

• Time Sensitive
  – Stroke
  – STEMI
  – Trauma

• Intervention Sensitive
  – Respiratory distress
  – Cardiac arrest
Time Critical Events

- Interventions are minimal
- Most are performed by basic providers
- Requires cooperation to achieve goals
- Establishes value of first responders
Intervention Critical

• Intervention intensive

• Overlapping interventions

• Requires critical thinking

• Validates expertise of advanced providers
PI and Education

• System bundles for each of the conditions
  – Only clinically relevant components
  – Only components controlled by provider

• Measured across provider level

• Synergy with education
  – Links education across provider levels

Measured behavior = Desired behavior = Clinical benefit
EVIDENCE-BASED PERFORMANCE MEASURES FOR EMERGENCY MEDICAL SERVICES SYSTEMS: A MODEL FOR EXPANDED EMS BENCHMARKING
A STATEMENT DEVELOPED BY THE 2007 CONSORTIUM U.S. METROPOLITAN MUNICIPALITIES’ EMS MEDICAL DIRECTORS (APPENDIX)

J. Brent Myers, MD, MPH, Corey M. Slovis, MD, Marc Eckstein, MD, MPH,
Jeffrey M. Goodloe, MD, S. Marshal Isaacs, MD, James R. Loflin, MD,
C. Crawford Mechem, MD, Neal J. Richmond, MD, Paul E. Pepe, MD, MPH

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<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>Elements in Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST-Elevation Myocardial Infarction (STEMI)</td>
<td>Aspirin (ASA), if not allergic, 12-Lead electrocardiograph (ECG) with prearrival activation of interventional cardiology team as indicated, Direct transport to percutaneous coronary intervention (PCI) capable facility for ECG to PCI time &lt; 90 minutes</td>
</tr>
<tr>
<td>Pulmonary edema</td>
<td>Nitroglycerin (NTG) in absence of contraindications, Noninvasive Positive Pressure Ventilation (NIPPV) preferred as first-line therapy over endotracheal intubation</td>
</tr>
<tr>
<td>Asthma</td>
<td>Administration of beta-agonist, Blood glucose measurement, Benzodiazepine for status epilepticus</td>
</tr>
<tr>
<td>Seizure</td>
<td>Limit non-entrapment time to &lt; 10 minutes, Direct transport to trauma center for those meeting criteria, particularly those over 65 (with time consistent caveats for air medical transport situations)</td>
</tr>
<tr>
<td>Trauma</td>
<td>Response interval &lt; 5 minutes for basic CPR and automated external defibrillators (AEDs)</td>
</tr>
<tr>
<td>Clinical Area</td>
<td>Elements</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ST-Segment Elevation Myocardial Infarction (STEMI)</td>
<td>Aspirin 12-lead electrocardiograph (ECG), direct transport to percutaneous cardiac intervention (PCI) interval from ECG to balloon &lt; 90 minutes(^\text{46,47})</td>
</tr>
<tr>
<td>Seizure</td>
<td>Administration of benzodiazepine for status epilepticus(^\text{66})</td>
</tr>
<tr>
<td>Pulmonary edema</td>
<td>Noninvasive positive pressure ventilation (NIPPV)(^\text{59})</td>
</tr>
<tr>
<td>Trauma</td>
<td>Patients with an Injury Severity Score (ISS) &gt; 15 to trauma center(^\text{72})</td>
</tr>
<tr>
<td>Trauma</td>
<td>Patients over 65 years of age with ISS &gt; 21 to trauma center(^\text{69})</td>
</tr>
<tr>
<td>Cardiac arrest</td>
<td>Defibrillator to the scene &lt; 5 minutes rather than &lt; 8 minutes(^\text{15})</td>
</tr>
</tbody>
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