Please Take Time Out!
Challenging the Perennial Obsession with Response Time Intervals

“Does Anybody Really Know What Time It Is? (That Actually Is Clinically Needed)”

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1,100 square miles
Population
  – 1.6 million day
  – 1.2 million night
208,746 calls (2015 +9%)
149,029 transports (2015 +2%)
71 % transports (-5% rate)
Mission & Responsibilities

• Relentless pursuit of optimal out of hospital emergency medical care quality
• Safety of the public, including our patients
• Support & safety of system professionals
• Fiscal accountability & stewardship
Quality of an EMS system is more than getter there fast...or is it?
Where Did 7:59 Come From?

Cardiac Resuscitation in the Community

Importance of Rapid Provision and Implications for Program Planning

Mickey S. Eisenberg, MD, PhD; Lawrence Bergner, MD, MPH; Alfred Hallstrom, PhD

Several time-related variables involving resuscitation from out-of-hospital cardiac arrest were studied. Short time intervals from collapse to initiation of cardiopulmonary resuscitation (CPR) and to provision of definitive care were significantly associated with survival from cardiac arrest. The two times were jointly related, and one short time without the other was unlikely to result in survival. If CPR was initiated within four minutes and if definitive care was provided within eight minutes, 43% of patients survived. If either time was exceeded, the chances of survival fell dramatically. The time to initiation of CPR and definitive care are factors directly influenced by emergency medical service program decisions. A realistic option to improve time to initiation of CPR is widespread citizen CPR training. A possible option to improve the time to definitive care is the training of emergency medical technicians in defibrillation.

(JAMA 241:1905-1907, 1979)
EMERGENCY MEDICAL SERVICES
EVIDENCE-BASED SYSTEM DESIGN
WHITE PAPER FOR EMSA

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July 2011
System Response Time Standards for Ambulances

Before Nov. 1, 2013

• Priority 1  8:59
  – 11:59 outside OKC/TUL
• Priority 2  12:59

After Nov. 1, 2013

• Priority 1  10:59
  – 11:59 outside OKC/TUL
• Priority 2  24:59
<table>
<thead>
<tr>
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<th>All Calls Pre 11/1/13 (1 Year)</th>
<th>All Calls Post 11/1/13 (2 Years)</th>
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</thead>
<tbody>
<tr>
<td>Priority 1</td>
<td>11:56</td>
<td>Priority 1</td>
</tr>
<tr>
<td>Priority 2</td>
<td>12:07</td>
<td>Priority 2</td>
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Priority 1 change impact is 1:14 at 90% fractile.

Priority 2 change impact is 6:04 at 90% fractile.
### Actual Effect on Ambulance Response Times – Metro Tulsa

<table>
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<tbody>
<tr>
<td>Priority 1</td>
<td>11:17</td>
<td>12:37</td>
</tr>
<tr>
<td>Priority 2</td>
<td>12:47</td>
<td>18:46</td>
</tr>
</tbody>
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Priority 1 change impact is 1:20 at 90% fractile

Priority 2 change impact is 5:59 at 90% fractile
Time OCFD On Scene Before EMSA Arrival (90th Percentile)

Contract Change 11/1/2013

Average Increase: 3:16
90th Percentile Increase: 3:25
Total TFD Scene Time (90th Percentile)

Average Increase: 1:49
90th Percentile Increase: 2:17
Average Increase: 3:18
90th Percentile Increase: 3:23
Operational Result

- Year Prior to Response Time Changes
  - 169,554 RLS responses

- 2 Years After Response Time Changes
  - 114,130 RLS responses (33%)
  - 229,667 Non-RLS responses (67%)
“There are absolutely zero instances since November 1, 2013, that I am aware of, in which there is a deleterious clinical outcome substantially or wholly linked to these differences in time. Zero instances.”
Nice Soundbite, But…

- Look at every MPDS code individually
- RLS return as a surrogate marker of pt severity
- What is a significant RLS return? >10%
- Actual numbers vs percentages?
  - At least 1 RLS return pt/major city/month
  - 48 patients in 2 years (per MPDS code)
- What is a significant relative increase in RLS return? 25%+
06C01 = Non Life Threat “Abnormal Breathing”

• Pre 11/1/13 EMSA/PPlus responding RLS
• 06C01 represents 2.00% of all calls in OKC
• 66/1412 = 4.67% RLS return

• Post 11/1/13 EMSA/AMR responding non-RLS
• 06C01 represents 1.68% of all calls in OKC
• 49/1182 = 4.15% RLS return in Year 1
RLS Return by MPDS Analysis

- Nearly 900+ codes used each in OKC & in Tulsa
- Any concerning combo of RLS data was already a Priority 1 ambulance designation and Fire Department utilization designation
- No changes in response matrix with 2 years data analysis
- Ongoing data pull and analysis to continue...
Mission & Responsibilities

- Relentless pursuit of optimal out of hospital emergency medical care quality
  - Increasing clinical capabilities avg q 2 mos
- Safety of the public, including our patients
  - Ambulance RLS responses down 230K/2 Yrs
- Support & safety of system professionals
  - Ambulance RLS responses down 230K/2 Yrs
- Fiscal accountability & stewardship
Dare to Dream AND Implement
Lower & Slower
Not Always
Higher & Faster

Among the Lives You Will Save
Are the Noble Ones Saving Lives!