

***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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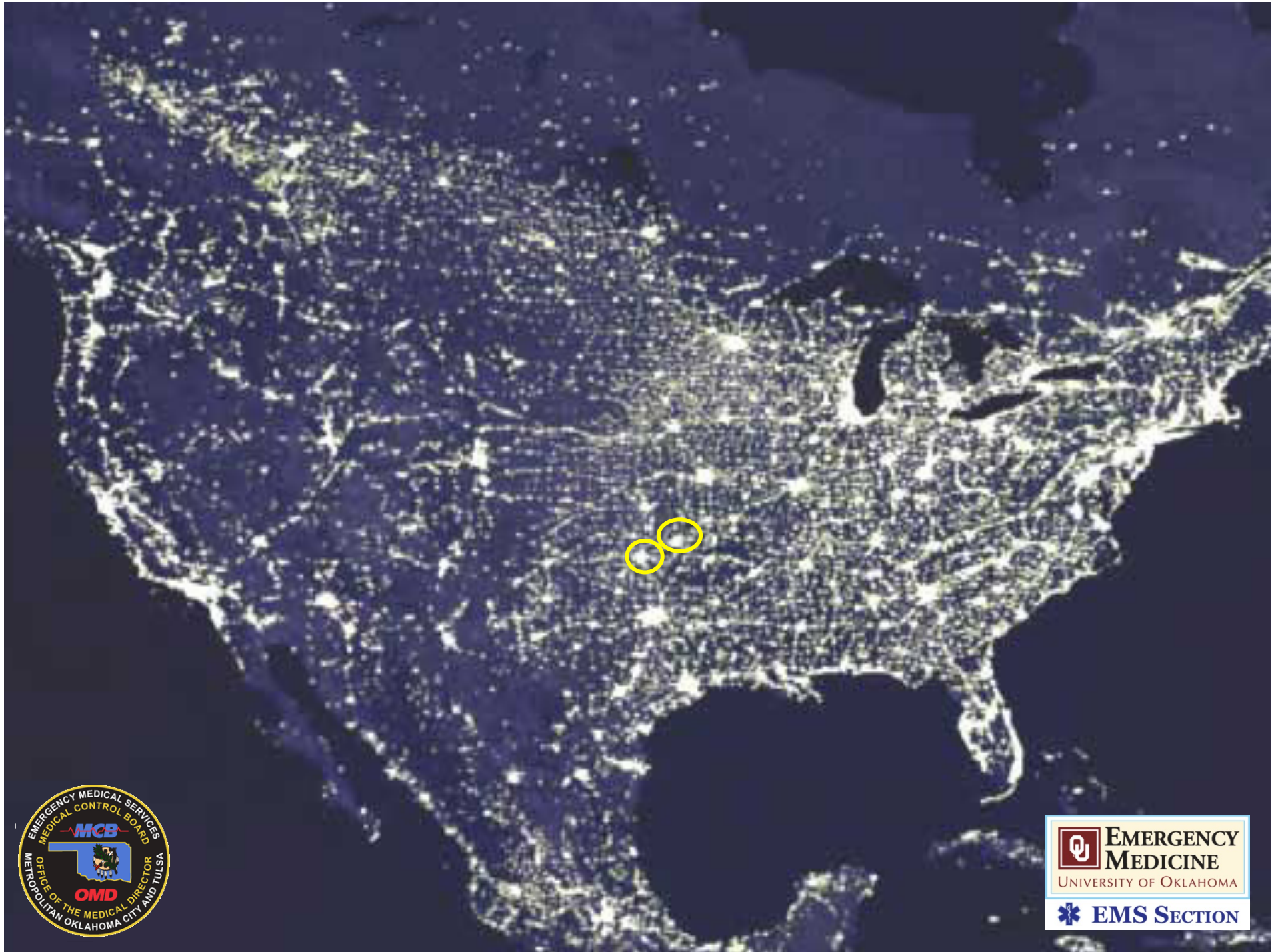
Medical Director, Medical Control Board

EMS System for Metropolitan Oklahoma City & Tulsa

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EMS System for Metropolitan Oklahoma City & Tulsa



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)

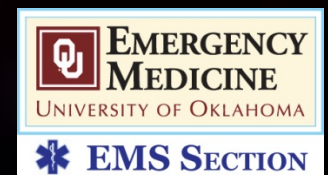


Mission & Responsibilities

- 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 getting there
fast...or is it?



Where Did 7:59 Come From?

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CGEMS # 9

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)

definitive care, the time from collapse to provision of defibrillation, intubation, or emergency medication (definitive care was provided either by paramedic units or hospital emergency room personnel in the cases for which paramedic services were not available).

Only incidents in which the collapse was directly witnessed or heard were included: 569 (61%) of the 927 cardiac arrests. Unwitnessed cardiac arrests were not included because of the imprecision of defining time of collapse. Access time was determined at the scene by an EMT or paramedic questioning the bystander. Usually this was determined on arrival and before knowledge of the outcome. In





**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**



Actual Effect on Ambulance Response Times – Metro OKC

All Calls Pre 11/1/13 (1 Year)

- Priority 1 11:56
- Priority 2 12:07

All Calls Post 11/1/13 (2 Years)

- Priority 1 13:10
- Priority 2 18:13

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

All Calls Pre 11/1/13 (1 Year)

- Priority 1 11:17
- Priority 2 12:47

All Calls Post 11/1/13 (2 Years)

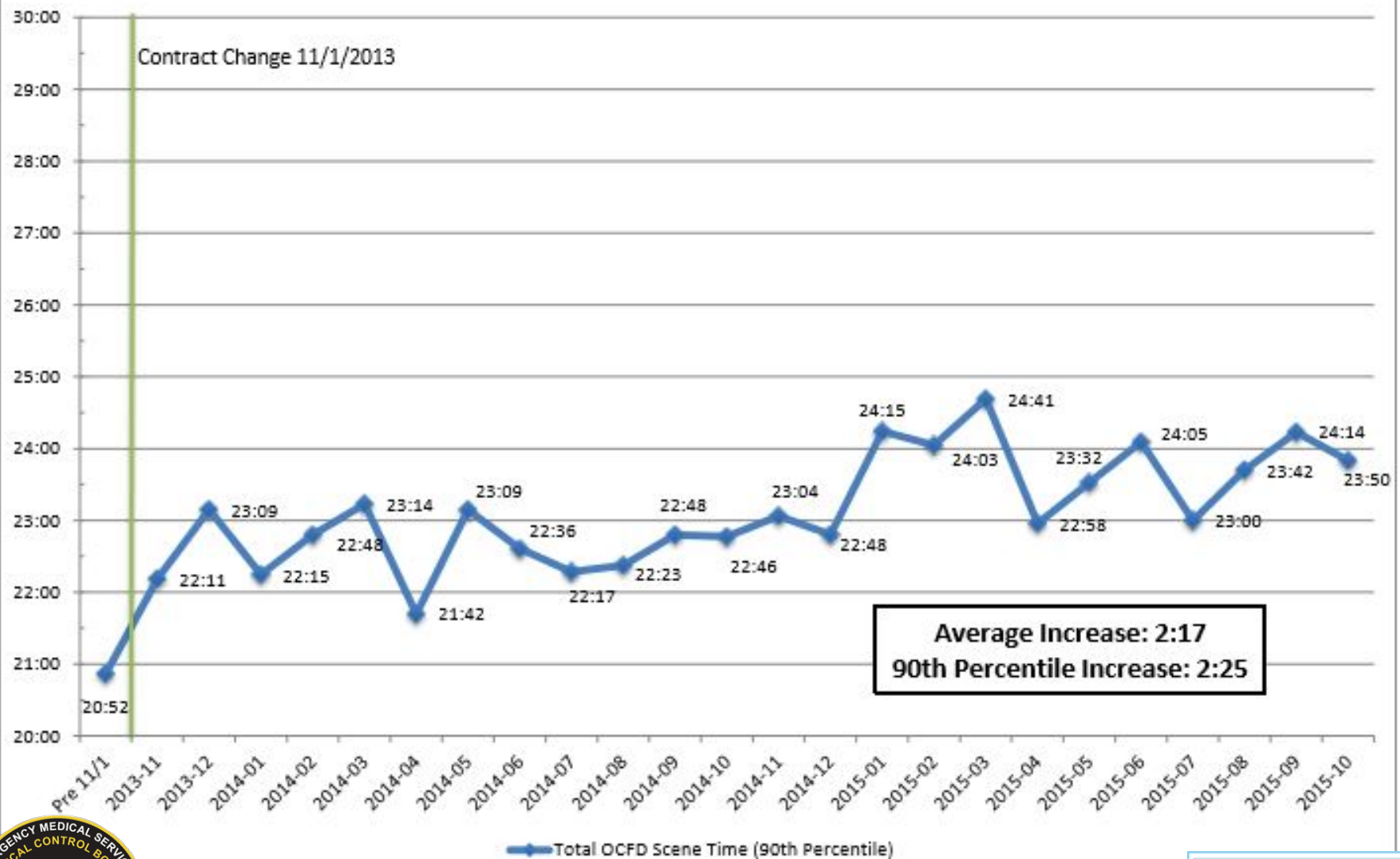
- Priority 1 12:37
- Priority 2 18:46

Priority 1 change impact is 1:20 at 90% fractile

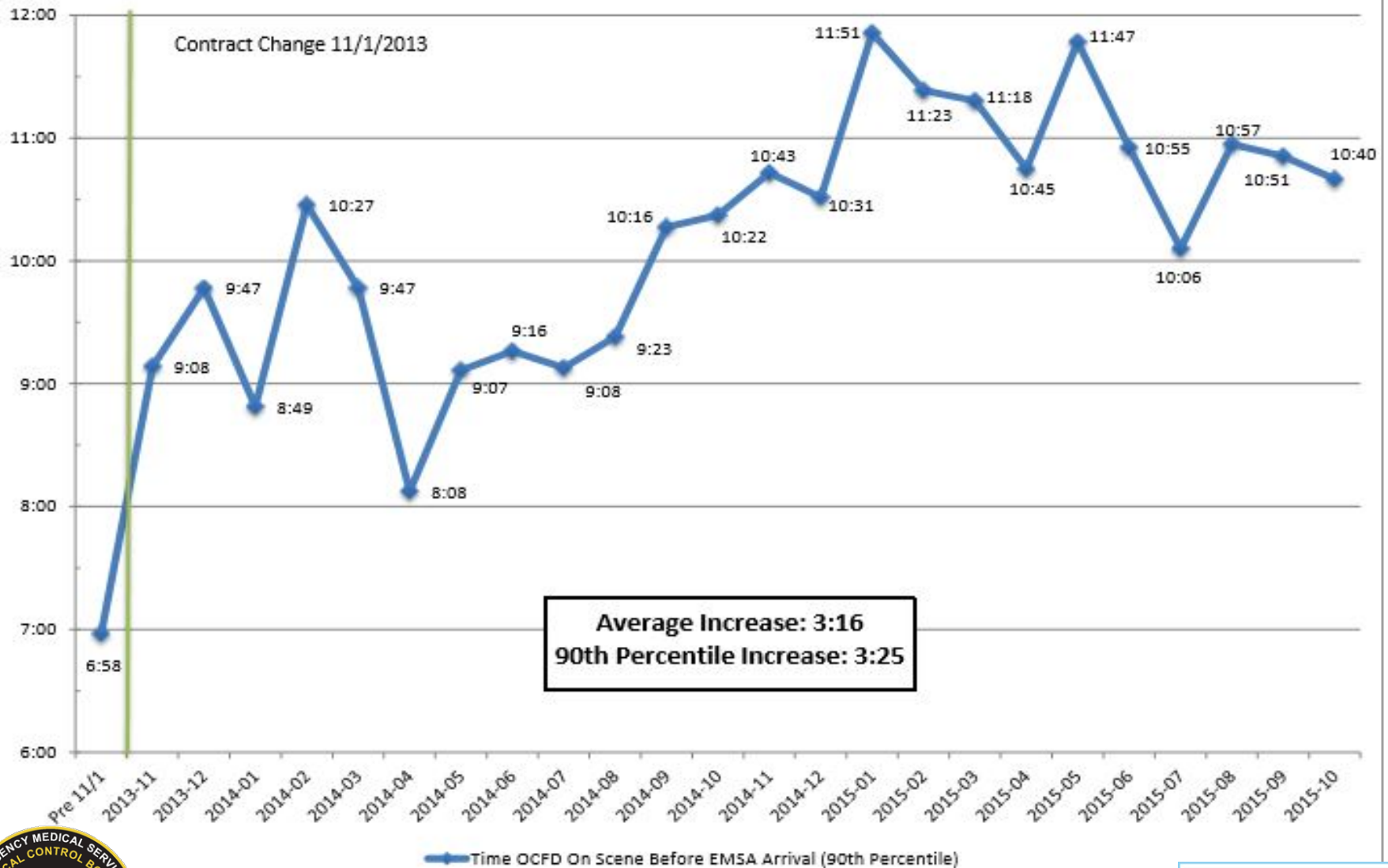
Priority 2 change impact is 5:59 at 90% fractile



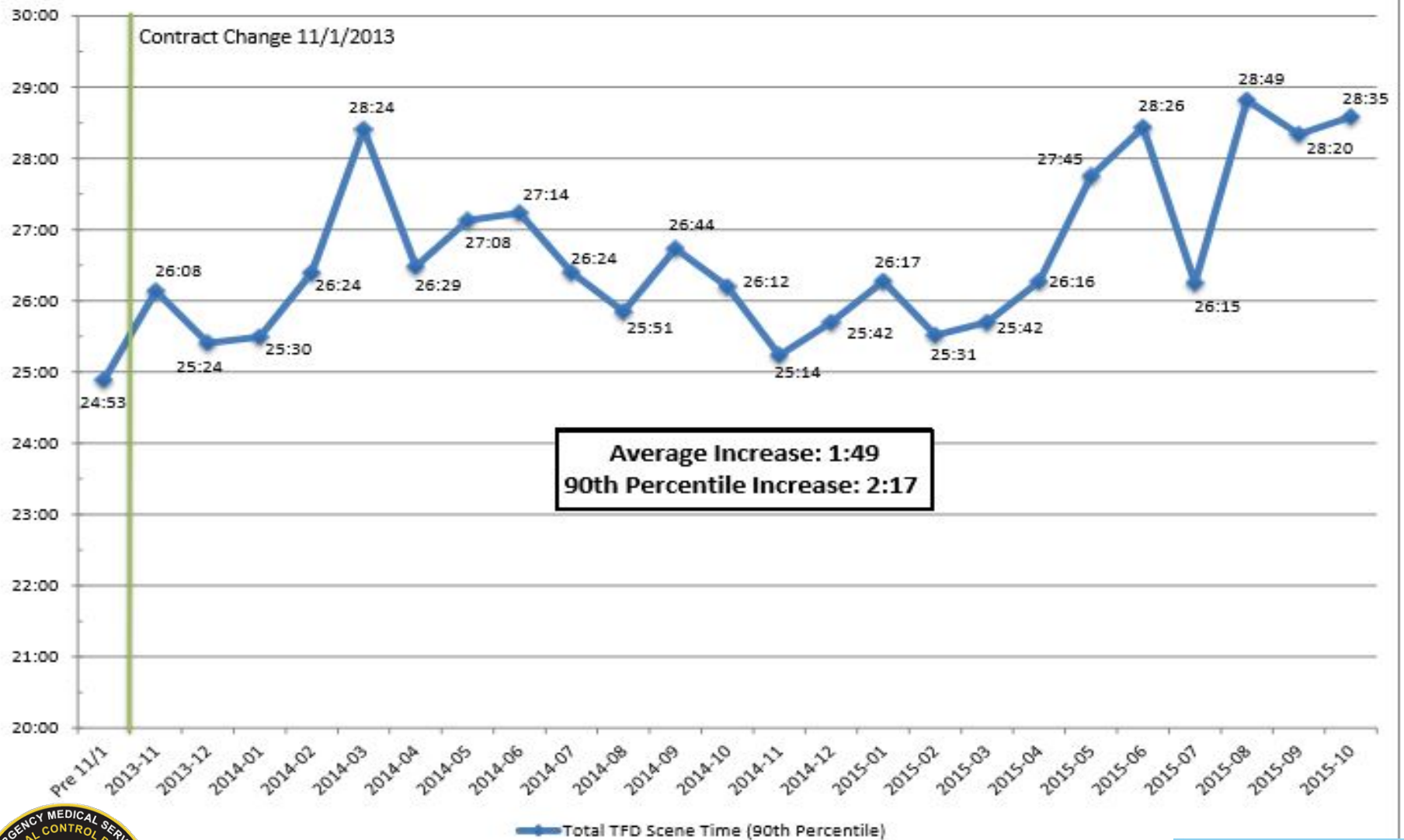
Total OCFD Scene Time (90th Percentile)



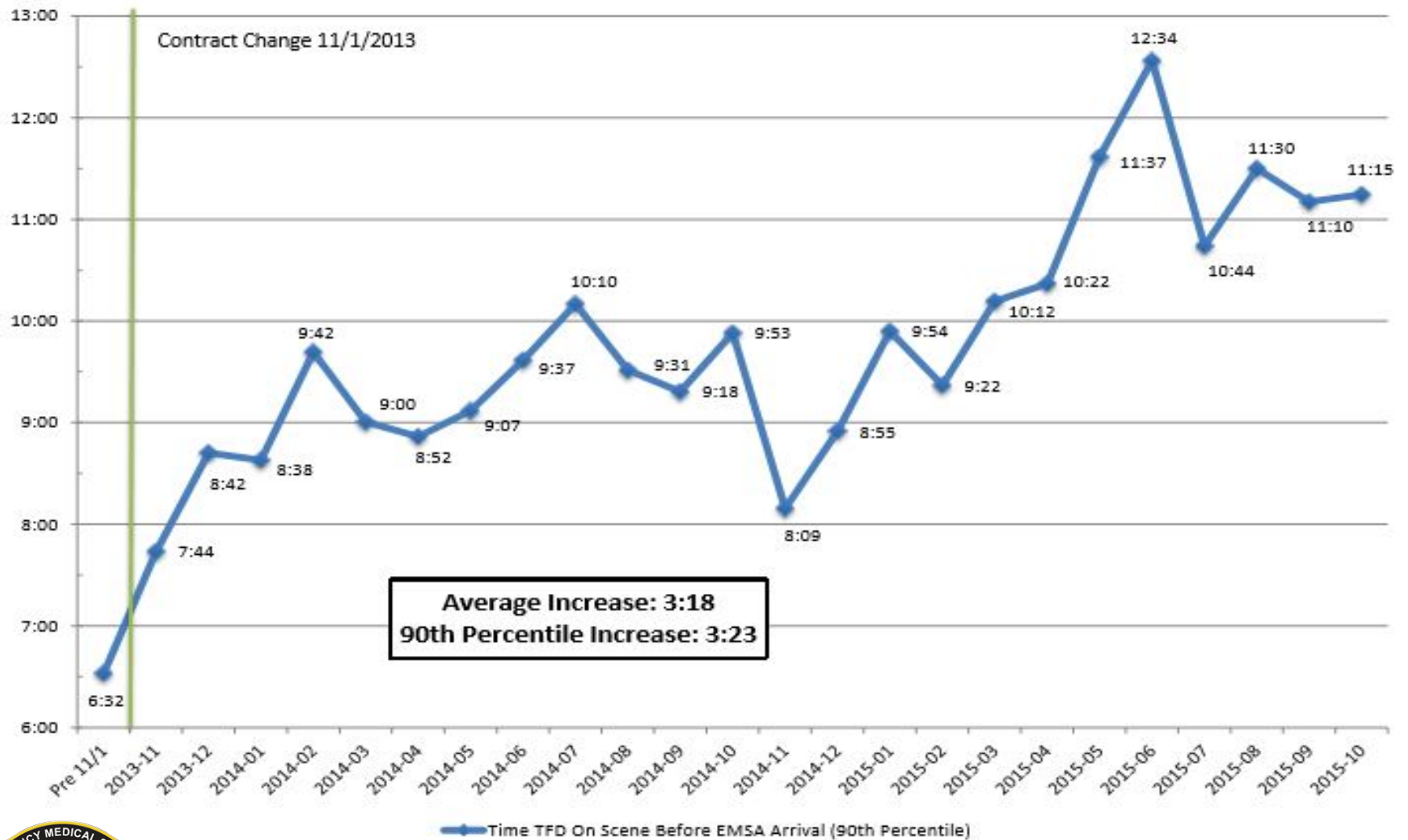
Time OCFD On Scene Before EMSA Arrival (90th Percentile)



Total TFD Scene Time (90th Percentile)



Time TFD On Scene Before EMSA Arrival (90th Percentile)



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%)



Clinical Result

“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 v 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!***





TULSA



OKLAHOMA CITY

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