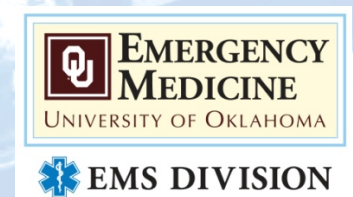


“Rockin’ the Stockin’ OK(lahoma) Ways of Tracking Drug Utilization”

(No, it’s not a scary narcotic diversion story!)

***Jeffrey M. Goodloe, MD, NREMT-P, FACEP
Medical Director, Medical Control Board
EMS System for Metropolitan Oklahoma City & Tulsa
Associate Professor & EMS Division Director, Department of Emergency Medicine
University of Oklahoma School of Community Medicine***





EMS System for Metropolitan Oklahoma City & Tulsa



1,100 square miles

Population

- 1.6 million day

- 1.25 million night

175,864 calls (2010)

132,224 transports (2010)

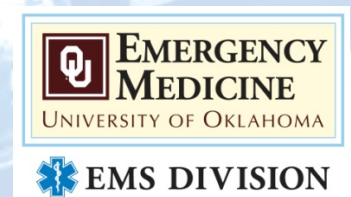
75% transports



A budget gift from Eagles 2011...

\$250,000

Yearly



The \$\$\$\$ Question

**Do we stock what we stock
OR
do we stock what we use and need?**



Whoa, Doc!!!

- You're getting operational on us....



- How does this have anything to do with the clinical practice of EMS Medicine?



How could you advance if \$\$\$\$ wasn't blocking the way?

- Monitor/defibrillators
- ITD devices
- Active compression/decompression devices**
 - **when available in the US
- CPAP, BiPAP, Mechanical Ventilation
- Stretcher upgrades
- Education
- CQI
- Medical oversight budget



The Gift of “Scarcity” in 2010



“We’re Gonna Be Out of D50!”

- **Who are our power users?**
- **What is our usage pattern?**
- **What do we stock on apparatus today?**
- **What do we have in supply today?**
- **What ordering options do we have?**



Reality Check – Part One

- **“We’re seeing some diabetics every week!”**
 - Single “power user” 7 amps in 6 months
- **“I wonder how many get more than 1 amp?”**
 - Zero in 6 months
- **“We stock what we need!”**
 - 10+ amps per ambulance
 - 3 amps per paramedic engine/squad



Reality Check – Part Two

- **Supply room inventory**
 - Less than 1 week supply at EMSA
 - Not much more at Fire Depts
 - Willing to share prn
- **Ordering options....**
 - No D50 (We got beat to the phones!)
 - D25 ?? (Not sure we can get that)
 - “Hey, we went ahead and ordered D10!”



Decision Time

- 60% percent reduction on ambulances
 - Hundreds of amps suddenly appeared!!
- Kept engine/squad supply same
- Placed D50 order for shipping “some day”
- Medical Director orders 6 weeks of all drugs to be kept in supply
- Vowed to find a better way...



Cost of Excess

Legend

Summary

\$6.08K



\$6.08K



Activated Charcoal

\$200



\$344



Adenosine

\$825



\$589



Albuterol

\$40.0



\$42.9



Amiodarone

\$171



\$412



Aspirin

\$0.27



\$2.43



Atropine

\$328



\$356



Atrovent

(\$22.8)



(\$24.7)



Benadryl

\$146



\$114



Calcium Chloride

\$0.00

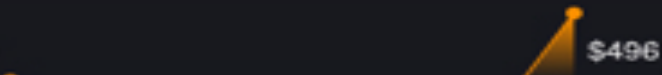


(\$26.8)



Dextrose 25 %

\$0.00



\$496



Dextrose 50 %

\$273



(\$367)



Cost of Excess

Legend

Dextrose 50 %

\$273

(\$367)



Dopamine

(\$2.31)

\$3.85



Epinephrine 1:1000

\$24.1

\$1.58K



Epinephrine 1:10000

\$313

\$87.3



Glucagon

\$1.46K

(\$639)



Lidocaine

\$189

\$0.00



Magnesium Sulfate

\$32.6

\$44.0



Narcan

\$674

\$658



Neo-Synephrine

\$0.00

\$0.00



Nitroglycerin

\$1.40K

\$2.20K



Sodium Bicarbonate

\$87.2

(\$64.7)



Solu-Medrol

(\$61.5)

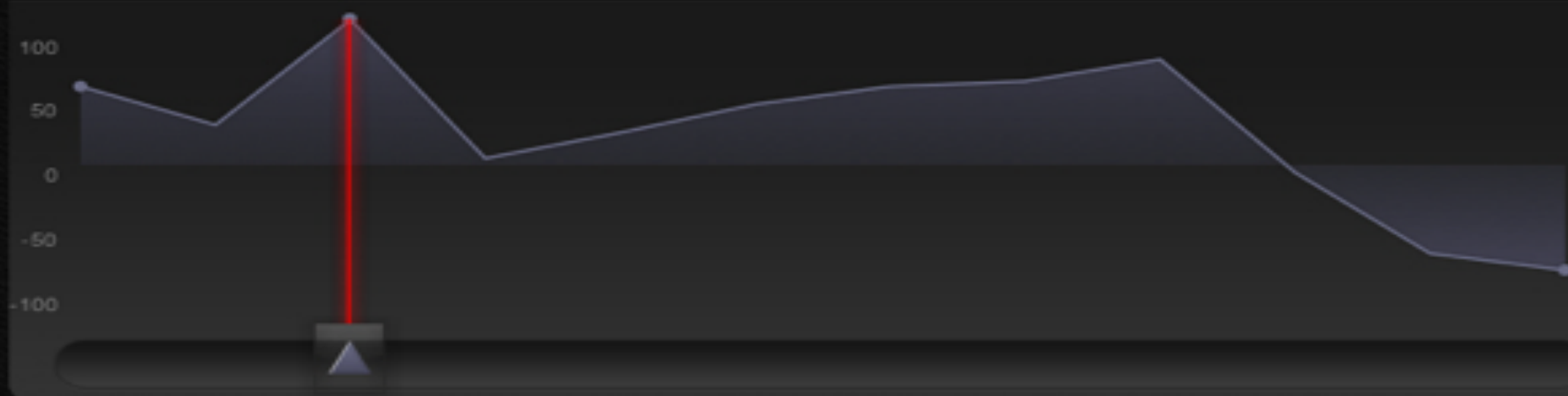
\$270



Amount in Excess

Oct

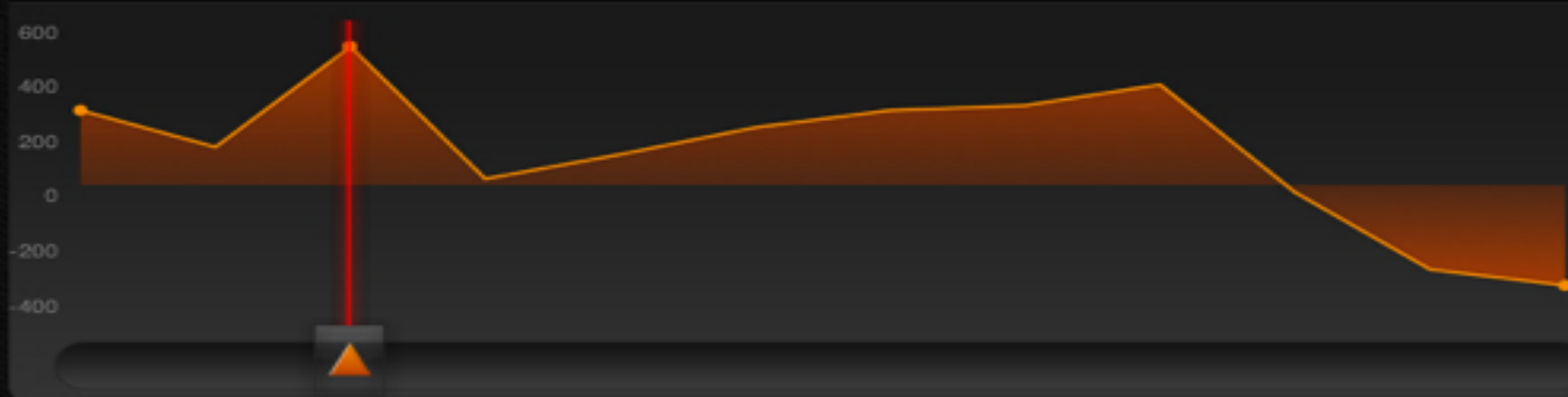
113



Cost of Excess

Oct

\$505.11

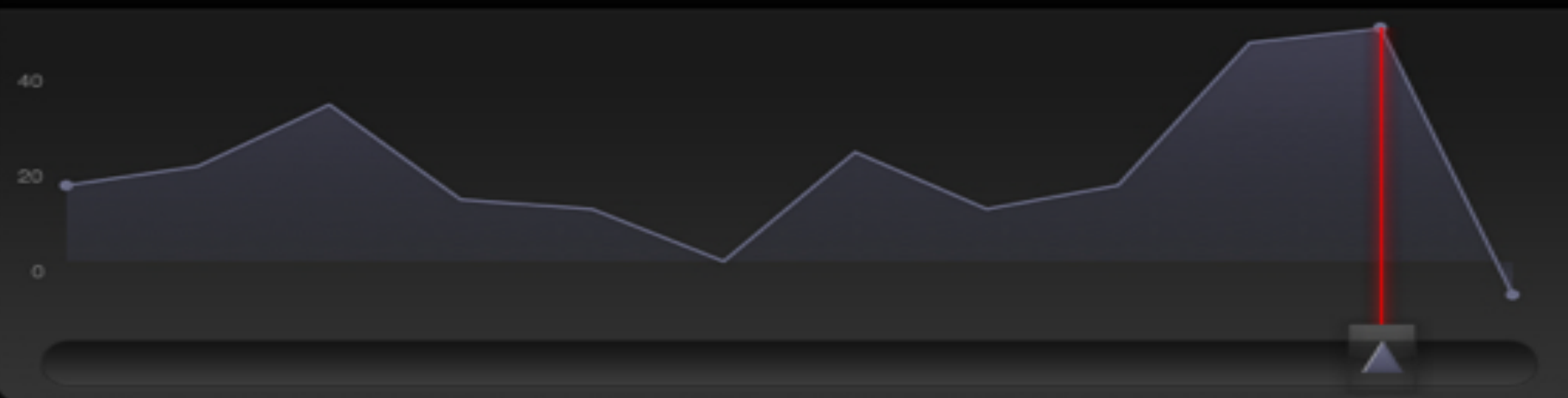


Static Supply

Amount in Excess

Jun

49



Cost of Excess

Jun

\$4,469.78

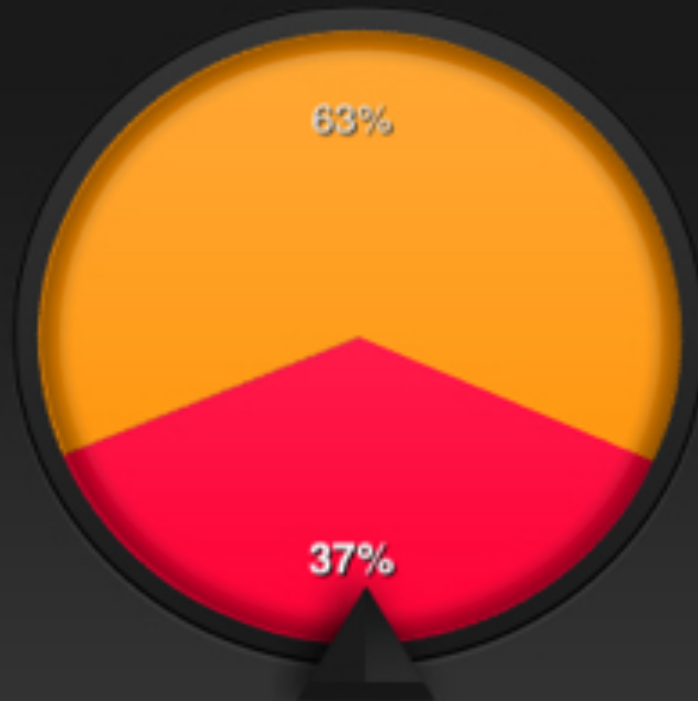


Static Supply

Static Supply

Total

205



EASTERN DBOX

37.07% : 76

Cost of Static Supply

Cost of Static Supply

\$18,700.10

Medication Consumption Aug 09-Jul 10: Eastern :

Benadryl

Monthly Medication Consumption

Jun

40



Monthly Medication Orders

Jun

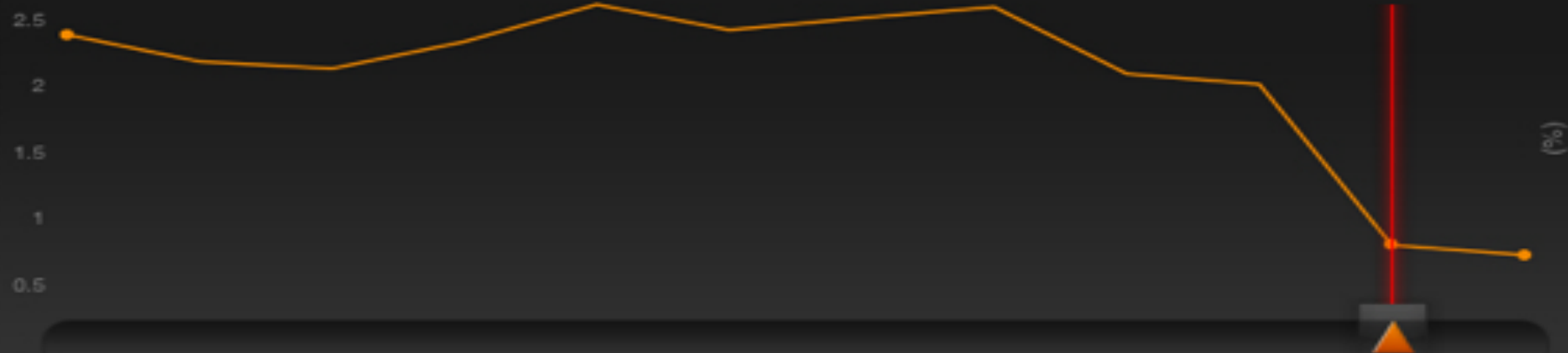
225



Patient Population Treated

Jun

0.712%



Amount in Excess

Jun

185



Cost of Excess

Does One Size Fit All?

Engine A – Ambulance 90% fractile lag time
= 2 mins

Engine B – Ambulance 90% fractile lag time
= 8 mins

Should the drug box on Eng A = Eng B?



**So what does this
all really mean?**

What do I take home?

Where is my suitcase of money?



Smart Pharmaceutical Stocking 2011 Eagles Summary

- Measure what you actually use (into pts)
- Factor what you need
 - On the streets & on what apparatus?
 - On the shelf?
- Order what you will use
- Stock what you need
- Measure costs of use and need (and savings!)





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