Philosophy of Five: Using performance improvement to unify a system

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TX-10

A TEXAN'S MAP OF THE UNITED STATES

WASH TIN
MOUNT ANNIE
NORTH COLDED
ALL RONE
COLOR RADIO
THE COLD (SOUTH)
YOU SAW
WHY HOME IN
KNEE GRASS
NEVER ADD
CAN THIS
ARID ZONE
NEW MIX (HICCUP)
OKAY?
EL PASO
AMARILLO
LUBBOCK
WICHITA FALLS
FT. WORTH
DALLAS
TEX-ARKANA
ABILENE
WACO
TYLER
AUSTIN
SAN ANGELO
BEAUMONT
HOUSTON
PORT ARTHUR
GALVESTON
SAN ANTONIO
GULF OF TEXAS
CORPUS CHRISTI
LAREDO
BROWNS-VILLE
MINT SODA
OUTA-WAY
MISERY
WISE COUSIN
ILL NOISE
INDIAN ANNIE
OLD HIGH
ARCH INSULT
CANNED TURKEY
TEN SEEDS
ALL HAMMY
SWAMP LAND
"DAMNED YANKEE" LAND

CardCow.com

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 <u>all</u> 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

CHINESE
GRAND OPENING
Dinner Buffet
with Seafood
ONLY $7.99
華園飯店
RESERVED PARKING

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

12
TEXAS
12
74

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

Special Contributions

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)

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TABLE 1. Key Treatment Elements for Various Clinical Entities Encountered by EMS Systems

Clinical Area	Elements in Model
ST-Elevation Myocardial Infarction (STEMI).	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 < 90 minutes
Pulmonary edema	Nitroglycerin (NTG) in absence of contraindications
	Noninvasive Positive Pressure Ventilation (NIPPV) preferred as first-line therapy over endotracheal intubation
Asthma	Administration of beta-agonist
Seizure	Blood glucose measurement
	Benzodiazepine for status epilepticus
Trauma	Limit non-entrapment time to < 10 minutes
	Direct transport to trauma center for those meeting criteria, particularly those over 65 (with time consistent caveats for air medical transport situations)
Cardiac arrest	Response interval < 5 minutes for basic CPR and automated external defibrillators (AEDs)

TABLE 2. Numbers-Needed-to-Treat (NNT) by Clinical Scenario

Clinical Area	Elements	NNT	Harm Avoided
ST-Segment Elevation Myocardial Infaraction (STEMI)	Aspirin 12-lead electrocardiograph (ECG), direct transport to percutaneous cardiac intervention (PCI) interval from ECG to balloon < 90 minutes[46,47]	15	Either a stroke, 2nd myocardial infarction, or a death
Seizure	Administration of benzodiazepine for status epilepticus[66]	4	Persistent seizure activity
Pulmonary edema	Noninvasive positive pressure ventilation (NIPPV)[59]	6	Need for an endotracheal intubation
Trauma	Patients with an Injury Severity Score (ISS) > 15 to trauma center[72]	11	1 death
Trauma	Patients over 65 years of age with ISS > 21 to trauma center[69]	3	1 death
Cardiac arrest	Defibrillator to the scene < 5 minutes rather than < 8 minutes[15]	8	1 death

AUSTIN–TRAVIS COUNTY
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PARAMEDIC RESCUE
DIAL
911
EMERGENCY
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