Why EMS, Criminal Justice, HUD & Hospitals Need to Co-mingle Data

Jose G Cabanas MD, MPH, FAEMS
Director/Medical Director
Wake County EMS System
Case

55 y/o male with PMHx of Substance Use and Serious Mental Illness
EMS Services at least 80 times a year
Multiple encounters with Law Enforcement
Numerous ED visits

Can the EMS System address this on its own?
Are you considering other community and social factors that will impact utilization of services?
Social Determinants

- Housing
- Food security
- Preventative and primary care
- Treatment for mental health issues such as post-traumatic stress disorder and substance abuse issues
## Definitions and Assumptions

<table>
<thead>
<tr>
<th>Agency</th>
<th>High Utilization Concept</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Homelessness (HUD)</td>
<td>Chronic Homelessness</td>
<td>Head of household has a disability AND has been homeless for at least 365 consecutive days or has had 4 or more episodes in 3 year period.</td>
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<tr>
<td>Wake County Jail</td>
<td>Familiar Face</td>
<td>An individual entering the jail system more than 4 times in a 24 month span.</td>
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<tr>
<td>Wake County EMS</td>
<td>High Utilizer</td>
<td>An individual that has utilized EMS services 4 or more times during a rolling 30 day period.</td>
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</table>

The analytic window for this study: January 2015 – December 2016
Findings

- 71% of Familiar Faces are younger than 36
- Medical screening data is self reported, inconsistent and not collected for 40% of bookings
- Most interactions with jail (72%) result from misdemeanor charges
- Familiar Faces account for 5% of the Jail Population and are predominantly young (under 36), African American Males
Findings

Out of 8,834 unique individuals, 800 above 95th percentile for utilization

Emergency Shelters are the most frequently used program with 6,600 individuals using them at least once over 20 months

High utilizers are most frequently African American Males between the ages of 46-55

*HMIS data only track those who formally received housing provisions. This skews the data towards males due to the lack of available shelter for females.
Findings

Due to the nature of emergency calls, data collection can be inconsistent.

The data does provide a discrete outcome for the incident, however it does not specify the reason for the call, state of the patient, treatment provided or information following a transport.

High Utilizers of EMS services are primarily White Females over the age of 76.
# Timeline of Events: A Case Study

<table>
<thead>
<tr>
<th>Agency</th>
<th>Event</th>
<th>Event Start</th>
<th>Event End</th>
<th>Event Length</th>
<th>Days Between Events</th>
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<td>06 Jun 2016</td>
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Community Intervention Models

- Crisis Intervention Teams
- Post-Booking Diversion
- Jail-Based Programs
- Harm Reduction
- Housing First
- Information Sharing
Take Home Points

• Many communities continue to struggle with demand for services related to mental illness and addiction

• EMS System Interventions must integrate with community-wide strategies

• Information sharing with community stakeholders will provide a broader insight into the needs of the community
Driving Ms. Data: How Information is Shaping U.S. Healthcare System - and EMS

• What Happens When Prevention Works?

James Augustine, MD
A Look Ahead: Serving Patients with Unscheduled Needs

Community-Based Health Care
- Home Care Services
- Extended Care Facility
- Community Mental Health
- Ambulatory Surgical
- Primary Care

The Unscheduled Care System
EMS ~ ED ~ Urgent Care ~ Ask-A-Nurse

Hospital-Based Health Care
- Women’s Services
- Diagnostic Services
- Clinical Decision and Observation Services
- Medical Patient Hospitalist Service
- Surgical Centers of Excellence
- Specialty Services
Patient Flow is Predictable

EMS

371 / 1000 Population

Walk-ins to ED

Total use 451 / 1000 Population
83% Walk-Ins
17% Arrival by EMS

38% Admit Rate

11% Admit Rate

Transfer
2%

Admit
17%

Treat Release
79%

LBTC
2%
Volume Growth Based on Aging Population

Graying of the ED

12.1M
Use 644 per 1000

A Success Story:
Prevention of Premature Death and Improved Quality of Life
The Patient Mix
Unrecognized Prevention Issues

- The Burn, Trauma, Injury and Cardiac Arrest Issue
- What should we have known?
- Prevention Works
- When prevention works, more people are alive to get ill
- Trauma population ages
# The Evolution of Emergency Care

<table>
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<tr>
<th>Your Likes</th>
<th>Your Practice</th>
<th>Your Time</th>
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<tbody>
<tr>
<td>If you like Trauma</td>
<td>You should have practiced in the</td>
<td>1970’s</td>
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<tr>
<td>If you like Defibrillating and Acute MIs</td>
<td>You should have practiced in the</td>
<td>1980’s</td>
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<tr>
<td>If you like Airways and Peds Injuries</td>
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<td>1990’s</td>
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<tr>
<td>If you like reading x-rays and Admitting Patients</td>
<td>You should have practiced in the</td>
<td>2000’s</td>
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<tr>
<td>If you like reading EKGs, geriatrics, urgent care, case management, and palliative medicine</td>
<td>You are practicing in the</td>
<td>2010’s</td>
</tr>
<tr>
<td>If you like Community Unscheduled Care, and out of hospital medicine, and more geriatrics</td>
<td>Wait till you practice in the</td>
<td>2020’s</td>
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</table>
Changing Emergency Patient Mix

- **Mental Health**
- **Injury**
- **Illness**
Where is the Data?

• **CDC National Center for Health Statistics**
  - National Hospital Ambulatory Medical Care Survey
  - Emergency Department Data Tables
  - Just released data tables for 2014

• **ED Benchmarking Alliance**
  - Emergency Department Performance Measures
  - Data Release for 2016

• **AHA (Amer Hospital Assoc)**

• **ACEP Clinical Emergency Data Registry (CEDR).** The data source of the future
Disruption Ahead!

- **What is Amazon Ran Hospitals?**
- *The Medical Futurist Newsletter, Feb 2018*

- Tech Giants move into HC
- Hi Ann! Your prescriptions from Amazon Clinic just arrived! Your disaster supplies just arrived by drone
- AI-based Support systems in the Amazon Clinic
- Amazon HC package deals on Prime, and Dr. Alexa
- 3D printed drugs, supplies, and medical equipment
- The Amazon Clinic - Recommendations and Black Fridays!
- The entire Medical History of you, from all sources
- Patient-centered Hospitals, Clinics, and ambulances
The Preparedness Burden

- Ebola
- Active shooter
- Weather
Data Guide for EMS

- Plan forward for increased volumes
- Medical and Seniors a huge part of emergency
- MIHC is a needed model
- Improve quality of service, *and prevention*
- Build a case for Value/Cost effectiveness
- Train leaders in business of Unscheduled Care
A More Efficient Credentialing Process

Jose G Cabanas MD, MPH, FAEMS
Director/Medical Director
Wake County EMS System
Do you have a credentialing process?

How long does it take to clear a new provider in your EMS System?
NAEMSP Position Statement

CLINICAL CREDENTIALING OF EMS PROVIDERS

The practice of Emergency Medical Services (EMS) Medicine is complex, dynamic, and diverse. This practice is historically built upon the domains of education, certification, and licensure. Although these domains remain continuously relevant, there is an equally compelling need for a fourth domain in sound medical practice: EMS provider credentialing by the local EMS physician medical director.

EMS providers acquire the cognitive knowledge and psychomotor skills of entry-level competence through completion of accredited education programs. Curricula standards for such programs are commonly based on such benchmarks as the National EMS Education Standards and the National EMS Scope of Practice. While such models identify the range of skills and roles that EMS providers at specified certification levels should be able to perform, they do not authorize the local practice of EMS medicine. Authorization to practice is a function of state licensure and local credentialing by

The NAEMSP and NREMT believe:

- The EMS physician medical director must have final authority and accountability for credentialing of EMS providers providing care under their oversight. While the physician medical director may delegate evaluation of an EMS provider’s competencies, the EMS physician medical director must be actively involved in the EMS organization’s clinical credentialing process.

- Credentialing involves at a minimum: (1) demonstration of sufficient cognitive knowledge; (2) demonstration of mature, responsible affective ability; (3) demonstration of a command of all involved psychomotor skills; and (4) integrating the three previous domains in the application of critical thinking in the provision of clinical care for all acuities of patients that may be reasonably encountered in the jurisdictionally relevant practice of EMS medicine.
Training ≠ Knowledge

Experience ≠ Competence
Field Training Evaluation Process

• Post-certification training and evaluation process to approve a provider to work in a particular EMS System

• Process varies based on:
  • System design
  • Protocol design
  • Initial education/experience
What does it do?

- Assures minimum knowledge
- Provides supervised experience
- Teaches practices unique to the System
- Facilitates cultural indoctrination
- Establishes uniform minimum expectations for performance in the System
Wake County EMS Academy

- 5 week didactic
- 4-6 month supervised clinical
  - Field Training Officer
  - Objective/competency based
  - Graduated responsibility
- Physician Evaluation
  - Scenario and Oral
New Academy

- **Week 1- Week 3**
  - M-F with 2 days of operational ride time

- **Week 4-Week 6**
  - Work their assigned shift 2 days a week
  - Academy 2 days

- **Week 7- Week 15**
  - Recruits come every other week for *Sims and Skills*

- **Week 16**
  - Graduation

- **Complete Field Training Evaluation**
- **Medical Clearance**
### Overall Process

<table>
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<tr>
<th>WCEMS Academy (Old)</th>
<th>5 Weeks</th>
<th>9 Weeks</th>
<th>13 Weeks</th>
<th>17 Weeks</th>
<th>21 Weeks</th>
<th>25 Weeks</th>
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<td>Release to practice</td>
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<tr>
<td>Release to practice</td>
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System Entry Throughput

SE Throughput

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<tbody>
<tr>
<td>Days</td>
<td>296</td>
<td>256</td>
<td>279</td>
<td>181</td>
<td>158</td>
<td>213.8</td>
<td>202</td>
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<td>90th</td>
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<tr>
<td>Min</td>
<td>124</td>
<td>134</td>
<td>206</td>
<td>102</td>
<td>153</td>
<td>88</td>
<td>123</td>
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<tr>
<td>Max</td>
<td>372</td>
<td>260</td>
<td>329</td>
<td>181</td>
<td>176</td>
<td>243</td>
<td>202</td>
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<tr>
<td>Avg</td>
<td>218</td>
<td>210</td>
<td>244</td>
<td>158</td>
<td>156</td>
<td>165.5</td>
<td>162.5</td>
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WAKE COUNTY
Take Away

• Credentialing is a critical part of assuring the quality of care you will provide as a System
• Having a process does not assure that your product will meet your need
• Build your process backwards from the outcome you expect
• Measure the impact and make changes
Transitioning To Transitional Care

Jose G Cabanas MD, MPH, FAEMS
Director/Medical Director
Wake County EMS System
Realignment Reimbursement Policy and Financial Incentives to Support Patient-Centered Out-of-Hospital Care

By Abby Alpert, Kristy G. Mogarti, Gregg S. Margolis, Jeffrey Wasserman, and Arthur L. Kellermann

Giving EMS Flexibility in Transporting Low-Acuity Patients Could Generate Substantial Medicare Savings

ABSTRACT

Some Medicare beneficiaries who place 911 calls to request an ambulance might safely be cared for in settings other than the emergency department (ED) at lower cost. Using 2005–09 Medicare claims data and a validated algorithm, we estimated that 12.9–16.2 percent of Medicare-eligible 911 emergency medical services (EMS) transports involved conditions that were probably nonemergent or primary care treatable. Among beneficiaries not admitted to the hospital, about 34.5 percent had a low-acuity diagnosis that might have been managed outside the ED. Annual Medicare EMS and ED payments for these patients were approximately $1 billion per year. If Medicare had the flexibility to reimburse EMS for managing selected 911 calls in ways other than transport to an ED, we estimate that the federal government could save $283–$360 million or more per year, while improving the continuity of patient care. If private insurance companies followed suit, overall societal savings could be twice as large.
Wake County EMS APP Program

The Three R’s

**Respond:** Critical medical emergencies require an experienced paramedic

**Redirect:** Not all patients need an emergency dept. evaluation

**Reduce:** Well-person checks for diabetic patients, CHF patients, etc.
The Opportunity

- **CCWJC is the Community Care network for Wake and Johnston Counties**
  - 170 Primary Care Practices.

- **CCWJC serves approximately 123,000 recipients including:**
  - NC Health Choice
  - Carolina Access Medicaid
  - Carolina Access Medicaid/Medicare
  - Commercially insured patients
  - Uninsured patients
Embedded hospital Care Manager (CM) notifies APP of CHF related discharge within 24 hours prior.

Home visit(s) by APP:
- general assessment
- med reconciliation
- red flag education
- assess barriers to care

Joint Home visit(s) by CM and APP within 1-2 days.

Home visit(s) by CM within 7 days:
- Wake EMS Patient Satisfaction survey

30 Day Transition Period:
- Remainder of 30+ day follow-up
Case - 46 y/o patient with CHF

- Admitted > 200 days during 2014-2015,
- Enrolled in pilot program in April, 2015
  - Health care expenses:
    - 3 months prior to intervention: $103,409
    - 3 months after intervention: $557

Initial Actions
- APPs first visit within 24 hours of discharge
- Discovered medication gap and worked with care manager to resolve
- Provided immediate red flag education and monitoring
- Joint home visit completed by APP/CCWJC within 4 days
Comparison of Inpatient Claim $$ and Volume
0-9 Months Prior vs. 0-9 Months Post Start Date
Admit Date At Least 9 Months Ago
Non-Dual (N = 14)

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<tr>
<th></th>
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<tr>
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<td>$157,250.65</td>
<td>$100,403.67</td>
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www.wakegov.com
How was your overall satisfaction with our service?

- Outstanding: 31
- Met Expectations: 1
- Exceeded my Expectations: 3

Number of Survey Responses