



HFD ETHAN Project - ECCU 2017

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First Responder



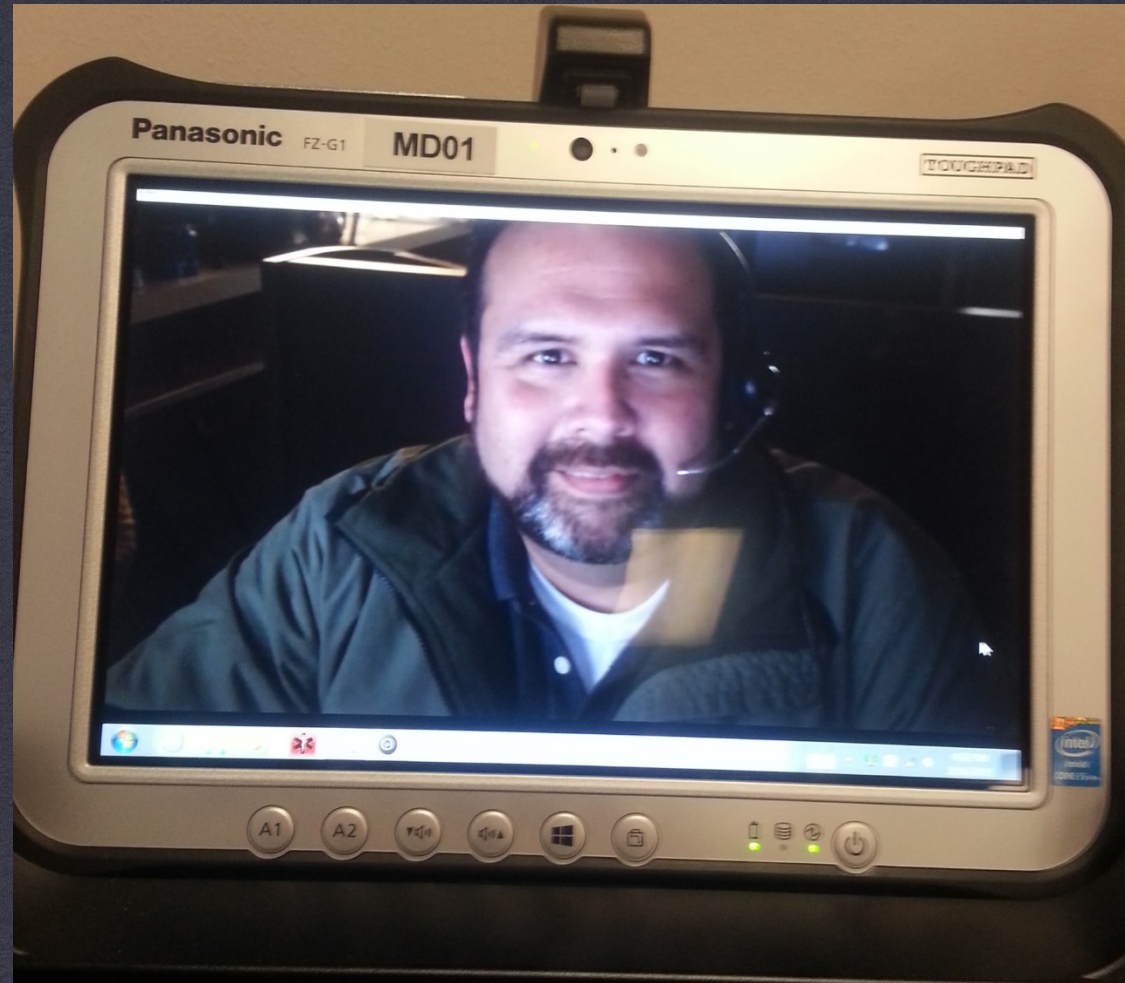
AMBULANCE



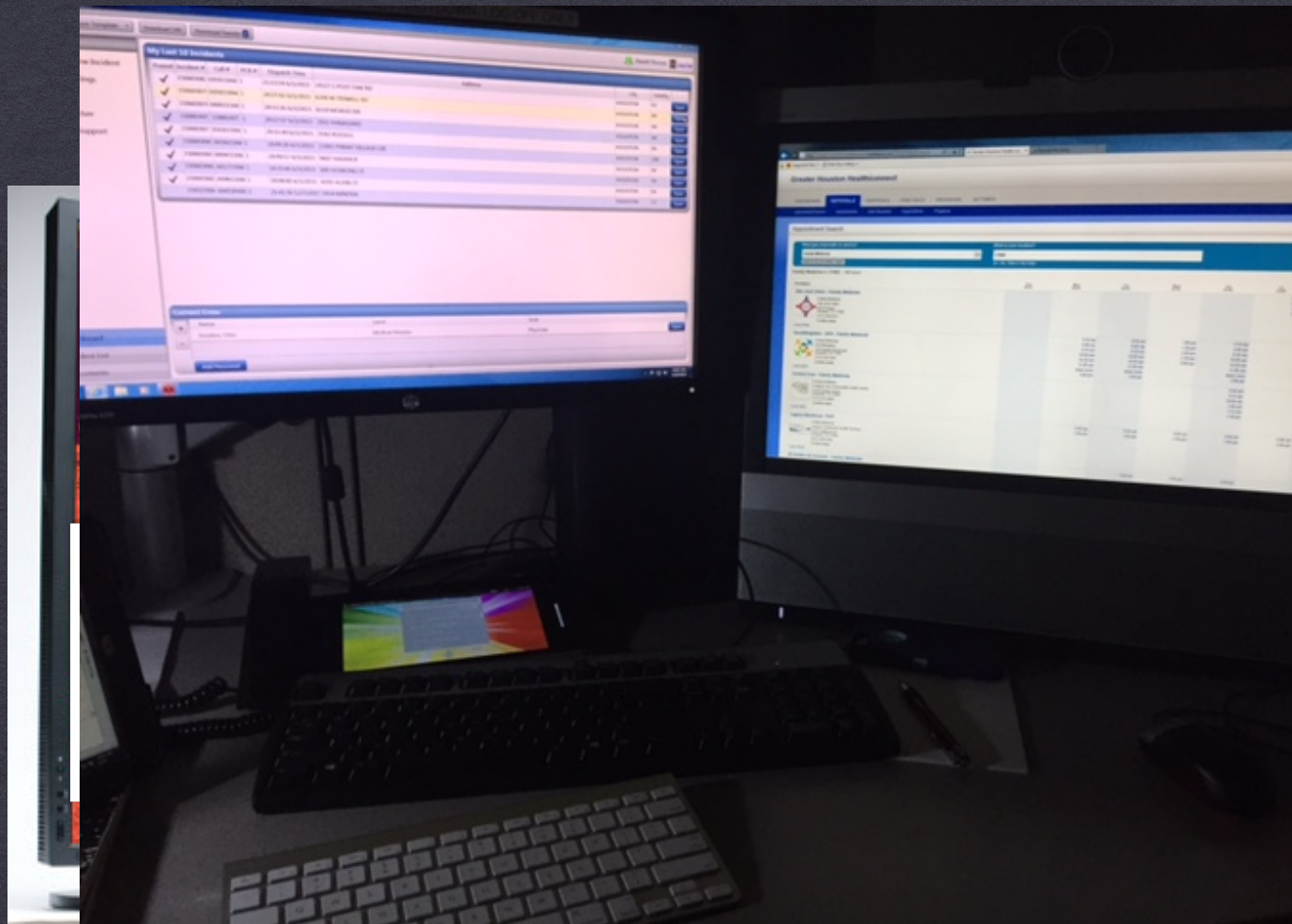
PARAMEDIC SQUAD



Toughpad



ETHAN Physician



ETHAN Workstation

ETHAN Disposition

- MD Referral to ER
- MD Referral to Clinic Appt
 - Patient agree
 - Taxi or POV
 - Patient refuse
 - Taxi to ER
- MD Referral for Followup, as needed
 - Home Care instructions
 - Patient agree
 - Patient refuse -> taxi ER



ETHAN - Care Houston

- * Follow up call
- * Arranges clinic visit
- * Taxi voucher
- * Connects with resources as needed
- * Establishes medical home



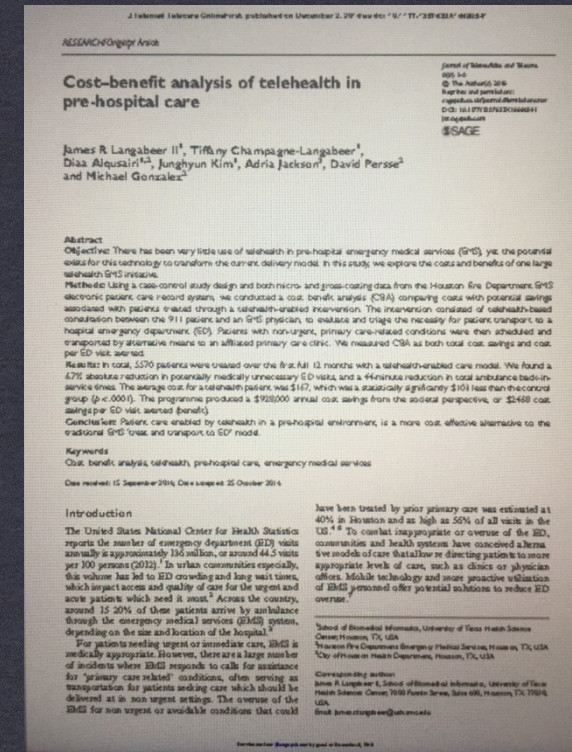
FINANCES

- * CAB = \$35
- * AMBULANCE =\$1000+
- * EMERGENCY DEPARTMENT VISIT = \$1354*
- * ETHAN CLINIC PARTNER = \$110
- * 95+/-% SAVINGS;

* <https://aharesourcecenter.wordpress.com/2011/07/27/whats-the-average-cost-for-an-er-visit/>

1st YEAR FINANCIAL ANALYSIS

- THIRD-PARTY ANALYSIS BY UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER, SCHOOL OF BIOMEDICAL INFORMATICS
 - STATISTICALLY SIGNIFICANT DIFFERENCE IN COST ($p < .0001$)
 - \$928,113 SAVINGS TO HEALTHCARE INDUSTRY
- * Langabeer J. Langabeer-Champagne T, Alqusairi D, et al. Cost-benefit analysis of telehealth in pre-hospital care. J Telemed Telecare, 2016, Dec 2 (Epub ahead of print)



ETHAN Partners

- Harris County Healthcare Alliance
- UT-School of Public Health
- Rice University eHRI/BRC
- Greater Houston HealthConnect
- Care Houston: Health Dept., HOUSTON FIRE DEPT.
- Local community health centers, FQHCS
- HARRIS County RIDES (yellow cab)
- CLINTON HEALTH MATTERS INITIATIVE
- CISCO
- PANASONIC

ETHAN - CURRENT ACTIVITY – DY3

ETHAN Operation Report
December 16, 2014-September 24, 2015



Total Number of Patients

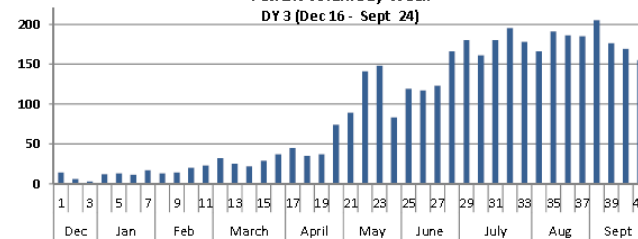
DY3: 3,600/3,600

% EMS
Transport

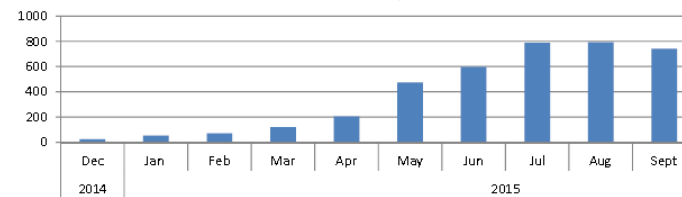
19%

ETHAN Disposition	# Patients	%
Patient Declined Referral - Cab to ER	2,175	56%
Referral to ER (Transport)	729	19%
Referral to ETHAN Clinic	377	10%
Referral to Patient PCP/Home Care	288	7%
Patient Refused to Participate	187	5%
Unable to Complete Due to Technical Issues	66	2%
Other	45	1%
Total	3,857	100%

Patient Volume by Week
DY 3 (Dec 16 - Sept 24)



Patient Volume by Month



ETHAN - CURRENT ACTIVITY – DY4

ETHAN Operation Report September 24, 2015-September 24, 2016



Total Number of Patients

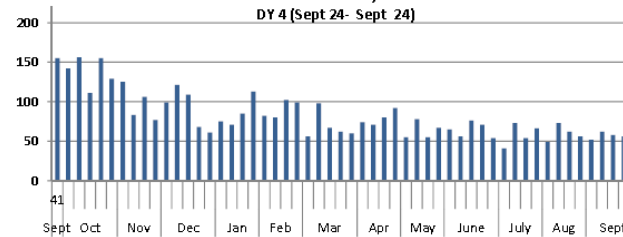
DY4: 3,780/3,780

% EMS
Transport

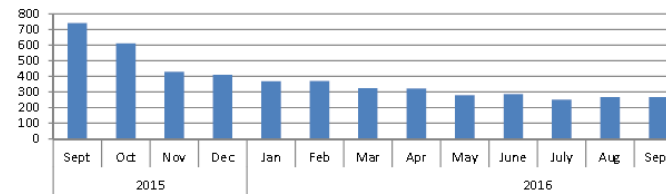
15%

ETHAN Disposition	# Patients	%
Ref. to ER by ETHAN MD (Cab or Self-Transport)	1,735	40%
Ref. for EMS Transport to ER (Ambulance)	650	15%
Ref. to ETHAN Clinic (Cab or Self-Transport)	213	5%
Patient Declined Clinic Ref.-Wants ER Visit (Cab or Self-Tr	1,307	30%
Ref. to Patient PCP/Alt. Clinic (Cab or Self-Transport)	205	5%
Patient Declined to Speak with ETHAN MD	89	2%
Unable to Complete Due to Technical Issues	42	1%
Ref. for Home Care Instruction Only	35	1%
Patient Refused EMS Transportation	19	0%
Other	48	1%
Total	4,343	100%

Patient Volume by Week
DY 4 (Sept 24- Sept 24)



Patient Volume by Month



Month	Patient Volume (Approx.)
July 2016	250
Aug 2016	270
Sept 2016	270
Oct 2016	250
Nov 2016	200
Dec 2016	200
Jan 2017	220
Feb 2017	280
Mar 2017	200
Apr 2017	430
May 2017	370
June 2017	450
July 2017	580
Aug 2017	750

ETHAN - CURRENT ACTIVITY – DY6

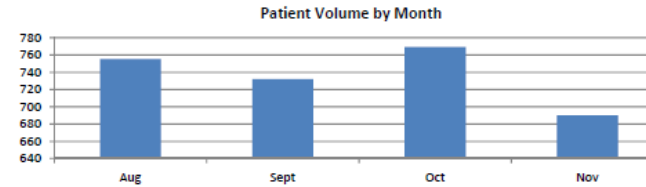
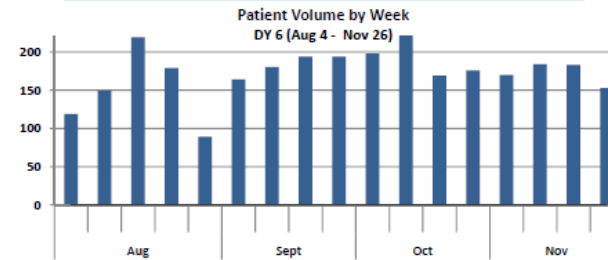
ETHAN Operation Report
August 4, 2017-November 26, 2017



Total Number of Patients
DY6: 2,860/3,960

% EMS
Transport
7%

ETHAN Disposition	# Patients	%
Ref. to ER by ETHAN MD (Cab or Self-Transport)	2,264	79%
Ref. for EMS Transport to ER (Ambulance)	189	7%
Ref. to ETHAN Clinic (Cab or Self-Transport)	61	2%
Patient Declined Clinic Ref.-Wants ER Visit (Cab or Self-Tr.	176	6%
Ref. to Patient PCP/Alt. Clinic (Cab or Self-Transport)	50	2%
Patient Declined to Speak with ETHAN MD	5	0%
Unable to Complete Due to Technical Issues	14	0%
Ref. for Home Care Instruction Only	18	1%
Patient Refused EMS Transportation	9	0%
Other	74	3%
Total	2,860	100%



Take Home Points

- Safety: Telemedicine applications in EMS may significantly reduce the number of unnecessary ambulance transports, reducing exposure for EMS professionals and patients alike to traffic collisions.
- Telemedicine applications can safely reduce EMS burden.
- EMS professionals may be slow to adapt new techniques.
- Significant cost savings to the entire healthcare system are possible with telemedicine in EMS.
- EMS CAN BE AN INTEGRAL PART OF THE OVERALL HEALTHCARE SYSTEM

