Improving EMS Response With Great Dispatch !

Are Current Call-Taker Questions and 9-1-1 Deployment Codes Accurate?

* James Augustine, MD
* Fire EMS Medical Director
* Lee County 911 Center

* Michael Feldman, MD PhD
* EMS/EMD Medical Director
* Toronto, Ontario

EMS Measures

Response Time Metrics

Call Processing Time - Time from 911 call receipt to dispatch

Turnout Time - Time from unit alert to wheels rolling; by unit, station, shift, call type

Travel Time - Time from wheels rolling to arrival on scene; by unit, station, shift, call type

Total Response Time (NFPA 1710/1720 compliance) - Time from 911 call to 1st unit arrival

First Unit On Scene Response Time - Tracks how quickly initial management can occur

How About Accuracy of Medical Incident Dispatch?

How can That be Evaluated?

Our 911 Center Staff – Unhappy with Seizures - Card 12 Accuracy

APRIL 21, 2025 — APRIL 28, 2025

Lee County Public Safety (FL)

PowerEngage Activity

Engage has been hard at work keeping your citizens informed and collecting feedback on how your first responders are doing.

ACTIVITY

The rules engine has matched 2885 times! Take a look at some of the matches.

1760	1002	123
CAD CALLTAKER	ESO TRANSPORT	ESO REFUSAL

Surveys

See the full report

Keep a pulse on the interactions your agency is having with the community.

911 Calltaker	**1511**	**29.2522%**	**97.47**
Version 4	Sent	Response rate	CPSS
Patient Refusal	**86**	**24.4186%**	**100.0**
Version 3	Sent	Response rate	CPSS
911 Response	**671**	**21.3115%**	**97.75**
Version 1	Sent	Response rate	CPSS

Here is some feedback from your community

Very concerned and very professional.

Helpful quick and calm

She was very thorough and kind

She was really helpful and professional. Thank you for your service

Very helpful

Very clear on instructions: while asking questions & professional

Seamed to ask same questions several times. When firemen got here made kind of a joke about the fire.

Very well spoken and quickly got the ambulance on call and to us

She was very calm and efficient very professional please thank her for me

She was awesome at a very difficult time. Professional with her questions and walked us through the correct procedure until first aid arrived. Thankyou Thankyou Thankyou ♡

Seizures Further Studied

* Seizures in 2024:
* Total 3700
* Seizure Plus Midazolam = 255
* Male = 130, Female = 125
* Improved = 220, Unchanged = 34
* Not a seizure, but still got Midazolam = 15
* Levetiracetam Candidate = 15 + 34
* SZ, Midazolam, and Nontransport = 3 (All good)
* SOURCE: CAD data (SQL queries on the database), and ESO data

Seizure Plus Midazolam

Age Less than 10 = 18
Teens = 12
Twenties = 43
Thirties = 45
Forties = 40
Fifties = 39
Sixties = 31
Seventies = 21
Eighties = 6

One dose = 186
Two dose = 54
Three dose = 12
Four dose = 3

Seizures in 2024

Alpha	776
Bravo	199
Charlie	987
Delta	1738
Echo	0
Total	3700

* What do you Worry About on the 12 Card?
  34 Dispo = Cardiac Arrest
* 8 dispatched as ABC
* 174 Dispo = Stroke Alert
* 13 as Alpha, 6 as Bravo, 80 as Charlie, 75 as Delta
* 3 transported as Stroke by Helicopter

Simple Spreadsheet

	Incident Date	EMD Card Number	Incident Num	Location Name	Patient Age	Gender	Priority	Unit	Initial Patient Acuity	Final Patient Acuity	Disposition	Hospital	Loaded Mileage	Primary Impression	Secondary Impression	Chief Complaint	ED Dic Diagnosis	Disposition
2	###	12A01E	M2109140255		72 Y, 11 M, 1	M	E	M14	Critical		Lights/Siren	Gulf Coast MC	15.6	Stroke	SZ not status	Patient unreliat		
3	###	12A01E	M2011070272		76 Y, 7 M, 12	M	E	M12	Critical	Critical	Lights/Siren	Gulf Coast MC	12.1	Altered Menta	Seizures	Seizure		
4	###	12A01E	M2110310091		75 Y, 0 M, 0	M	E	M26	Critical		Lights/Siren	Gulf Coast MC	9.7	Seizures with	Stroke	AMS		
5	###	12A01E	M2107180147		28 Y, 5 M, 24	F	E	M23	Critical		Lights/Siren	Lee Memorial M	7.8	Injury of Hea	Seizures	Head and neck		Home with Self Care
6	###	12A02	M2103180084		92 Y, 0 M, 9	F	E	M37	Emergent		Lights/Siren	Physicians Reg	17.4	Altered Menta	Stroke	None Voiced		
7	###	12A02	M2201100073		65 Y, 2 M, 3	M	E	M15	Critical		Lights/Siren	Gulf Coast MC	8.3	Stroke	Seizures	Stroke		
8	###	12A02	M2201040014		77 Y, 9 M, 8	M	Non-E	M12	Critical		Lights/Siren	Gulf Coast MC	12.1	Stroke	Seizures	Seizure		
9	###	12A02	M2107100231		68 Y, 2 M, 11	F	E	M08	Critical		Lights/Siren	Gulf Coast MC	3	Stroke	Seizures	Altered mental		Home with Self Care
10	###	12A02	M2205120102		82 Y, 11 M, 10	M	E	M25	Critical		Lights/Siren	Gulf Coast MC	8.2	Stroke	Seizure	I don't know wl		Home with Self Care
11	###	12A04	M2303150002		76 Y, -1 M, 26	M	E	M22	Emergent		No Lights/Siren	Gulf Coast MC	15.4	Seizure	Stroke	Left sided trem		
12	###	12A04	M2305310119		6 Y, 3 M, 21	F	E	M41	Critical		Lights/Siren	Golisano Childı	15.3	Stroke	AMS	Confusion, spe		
13	###	12A05	M2205060054		53 Y, 2 M, 11	F	E	M40	Emergent		No Lights/Siren	Gulf Coast MC	5.5	Altered Menta	Stroke	None voiced		Home with Self Care
14	###	12A05E	M2201060102			M	Non-E	M32			CancelledPTA							
15	###	12A05E	M2212280230		63 Y, 6 M, 6	F	E	M27	Emergent		Lights/Siren	Gulf Coast MC	7.6	Stroke	(TIA)	Per family – sh		
16	###	12A05E	M2201060102		58 Y, 6 M, 17	M	E	M31	Lower Acui		Lights/Siren	Gulf Coast MC	12.6	Stroke	Seizures	Stroke		Home with Self Care
17	###	12B00	M2203160427			M	E	M30			CancelledPTA							
18	###	12B00	M2204060083		83 Y, 0 M, 21	M	E	M12	Lower Acui		Patient Dead on Scene			Cardiac arres	Pulmonary En	Patient said he		
19	###	12B00	M2303150157		44 Y, 3 M, 1	F	E	M11	Emergent		Lights/Siren	Gulf Coast MC	8.9	Stroke	Headache	I can't move m		
20	###	12B00	M2012200323		49 Y, 6 M, 3	M	E	M27	Emergent		No Lights/Siren	Gulf Coast MC	7.8	Stroke	AMS	"I hurt"		
21	###	12B00	M2105150210		40 Y, 4 M, 16	F	E	M23	Critical		Lights/Siren	Gulf Coast MC	4.8	Stroke	Seizures	No voiced com		Home with Self Care
22	###	12B00	M2203160427		38 Y, 10 M, 6	F	E	M24	Critical		Lights/Siren	Gulf Coast MC	11.5	Stroke	(TIA)	Headache.		LAMA (Left AMA)
23	###	12B00	M2108160052		17 Y, 7 M, 19	F	E	M18	Critical		Lights/Siren	Gulf Coast MC	7	Cardiac arres	Seizures	none voiced		Other LMHS MC

Pieces of Data - 911 System

* Age
* Gender
* Initial Patient Acuity
* Final Patient Acuity
* Disposition
* Hospital
* Loaded Mile

Pieces of Data – Patient Care Report

* **Chief Complaint**
* **Stroke, Cardiac, Sepsis, OB Alert**
* **Primary and Secondary Impressions**
* **Treatments**
* **Additional Clinical Details – Medical History, Response to Treatment**

Pieces of Data – Hospital

ESO HDE

* Arrival at ED
* ED Disposition
* Hospital Disposition
* Additional Clinical Detail from ED
* Additional Clinical Detail from Hospital

Questions that Would Help on Card 12?

- **Does this Patient Have a History of Seizures? What Usually Stops Them? = Low Acuity**
- **Does this Patient Have a History of Brain Cancer? = High Acuity**

Quality Improvement

Sources of Raw Material in 911 Center Evaluation

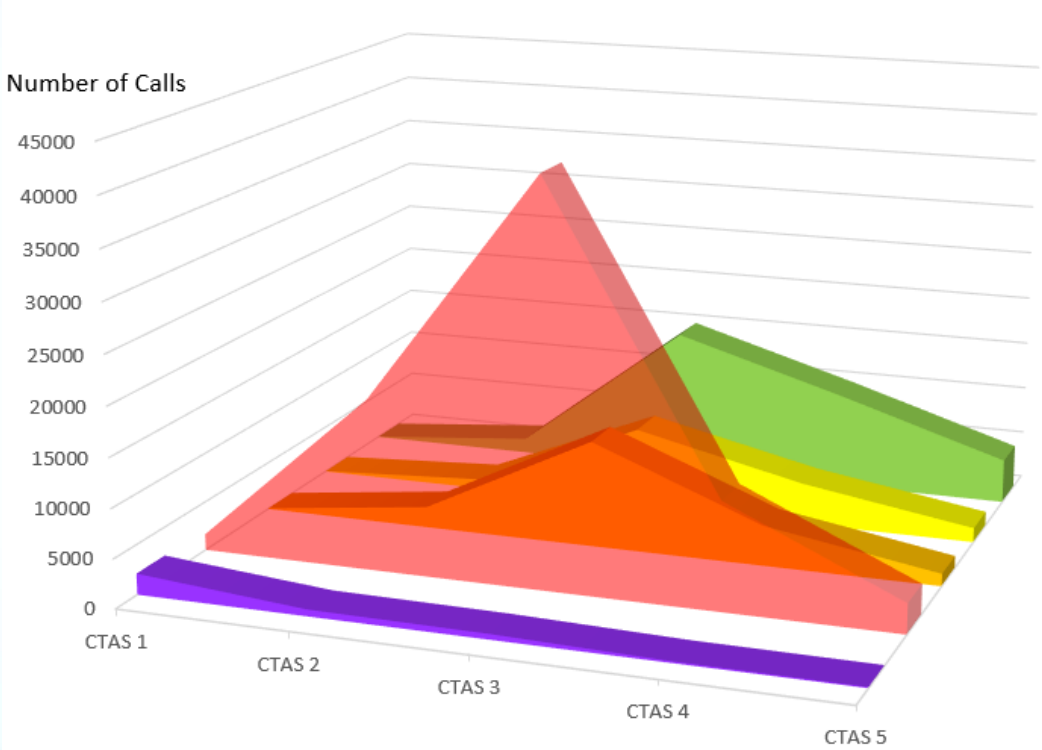
- ePCR audits/reviews (software or manual)
- Protocol/policy variations
- Patient or family feedback (Pt Engagement Surveys)
- Employee feedback
- Hospital feedback
- Hospital Data Exchange
- State EMS Bio-spatial dashboard

Quality Improvement in Emergency Medical Dispatch

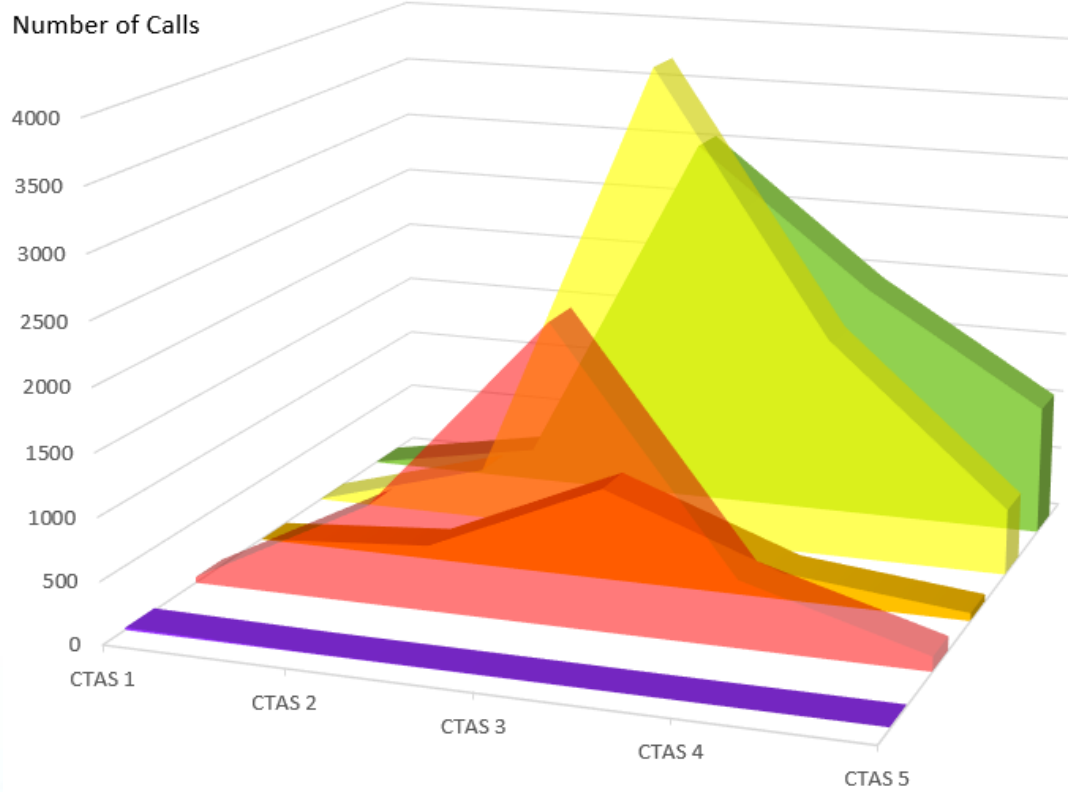
- In EMD, no perfect precision is possible
- EMD is a massive public health exercise
- What is the standard of care in the rest of the health care system?
  - Missed MI rates
  - PERC rule for PE
  - PECARN rule for pediatric head injury
  - Societal risk tolerance
- If we accept MPDS (or any other dispatch protocol) as the standard for our community, we have a comparator

Example: Protocol 17 (Falls)

All Calls

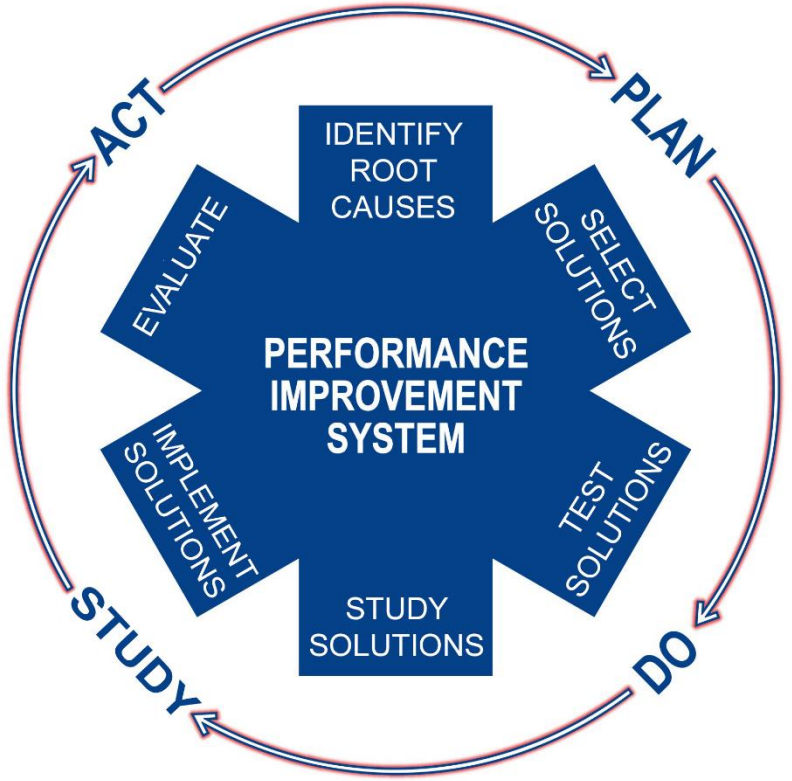


Falls Only



Sunnybrook
HEALTH SCIENCES CENTRE

Quality Improvement Systems



Open Discussion

Call Takers and Dispatchers do a Great Job!

- Modern Data Systems can be Integrated to give Helpful Insights, especially in busy systems
- Quality Improvement needs to utilize 911 and EMS data, and also ED and hospital outcomes
- Some Cards are by Nature less Accurate
- Keep Looking for Better Questions

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