

# Emergency Medical Dispatch Identification of Opioid Overdose and Frequency of NARCAN Administration on Scene



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## Introduction

Opioid overdoses have reached critical proportions in the United States of America (USA or US) and worldwide. The US Centers for Disease Control and Prevention report that more than 90 Americans die every day from opioid overdose, and the epidemic was recently declared a national public health emergency. The Medical Priority Dispatch System (MPDS<sup>®</sup>) version 13.0 includes instructions by which the emergency medical dispatcher (EMD) can prompt the caller to find and use NARCAN on overdose victims. These instructions are only provided on Chief Complaint Protocols which overdoses are expected to be handled, especially the *Overdose/Poisoning (Ingestion)* (Protocol 23). Connecting all cases in which emergency medical services (EMS) determined NARCAN administration to be necessary with the originating EMD dispatch codes could help identify the range of caller-reported symptoms with which opioid overdoses are presenting, as well as the range of Chief Complaint Protocols on which NARCAN instructions might be applicable.

## Objective

The objective of this study was to determine the distribution of Chief Complaint Protocols on which overdose (or likely overdose) cases are handled. In other words, to identify the EMD-selected Chief Complaint Protocol for each case in which EMS on scene either administered naloxone or recorded the case as an overdose.

## Materials and Methods

This was a retrospective, descriptive, and uncontrolled study of de-identified EMD and EMS data, collected using MPDS<sup>®</sup> version 13.0, from two Emergency Communications Centers in USA, Accredited Centers of Excellence by the International Academies of Emergency Dispatch: Richmond Ambulance Authority, Richmond, VA, and Emergency Medical Services Authority, Oklahoma City and Tulsa, Oklahoma. Percentage and frequency of EMS-administered NARCAN by MPDS Chief Complaint Protocol.

Each center also provided de-identified computer-aided dispatch (CAD) data, paramedic primary and secondary impressions, transport priority, destination condition and NARCAN administration dose and rounds.

## Results

A total 5,180 calls were handled, of which 418 (8.1%) were outliers, and 4,762 (91.9%) were included in the study.

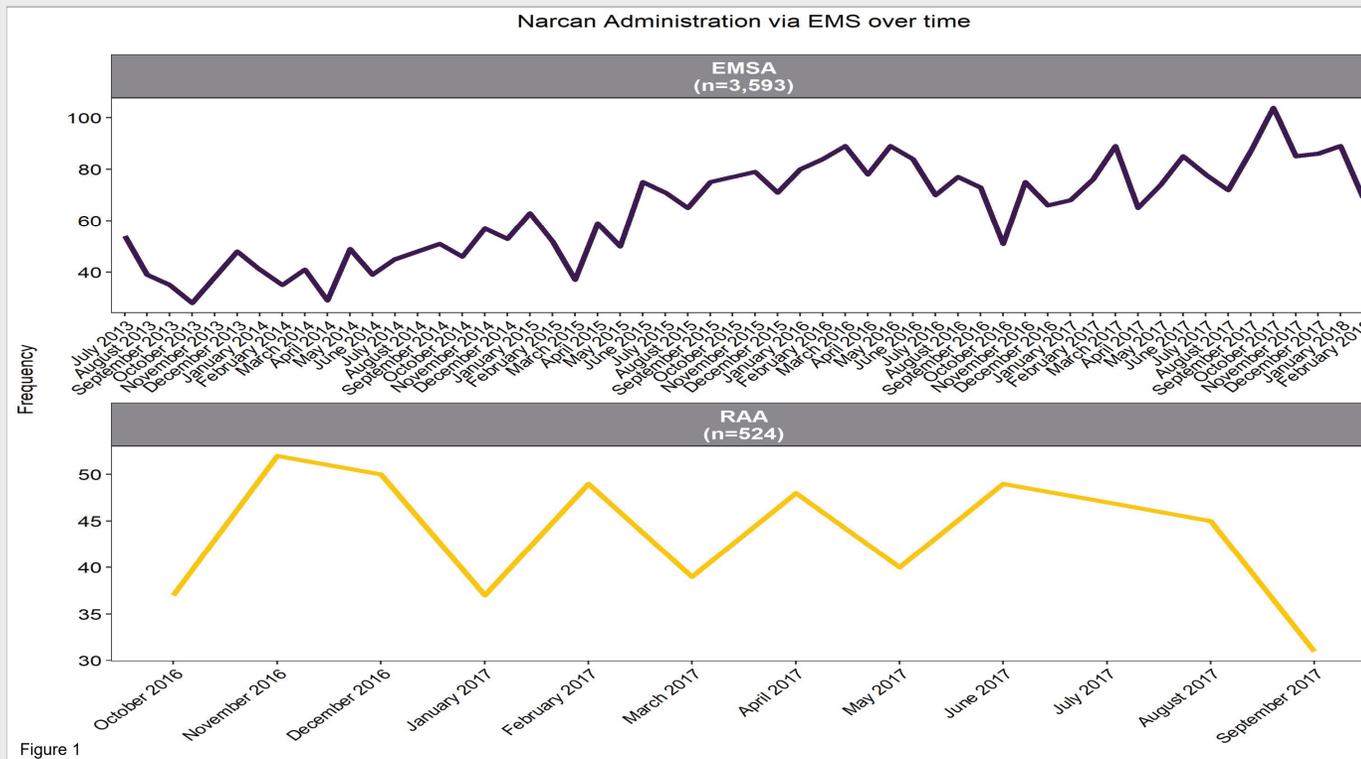


Figure 1

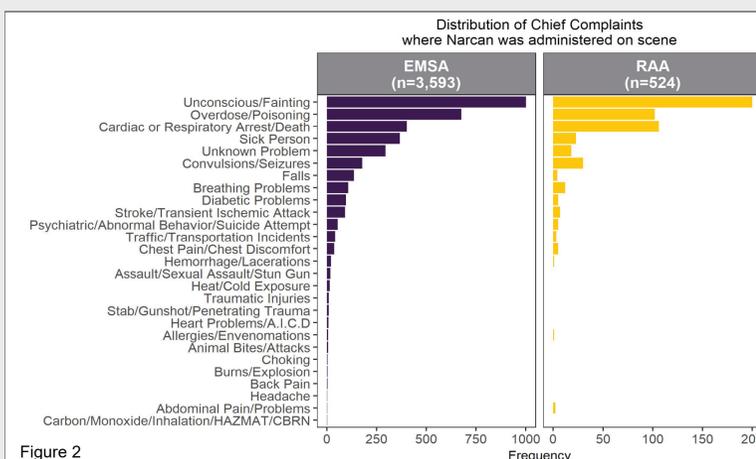


Figure 2

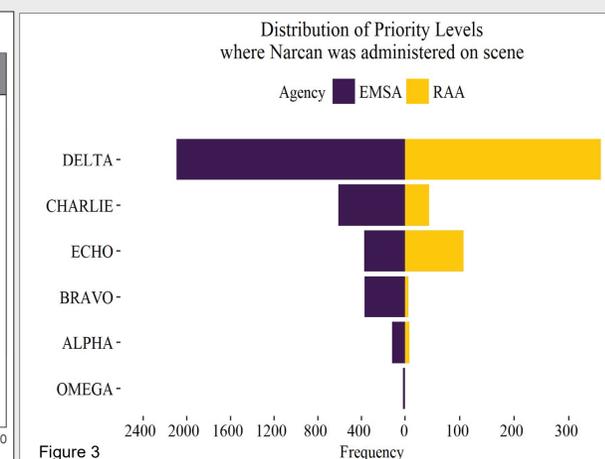


Figure 3

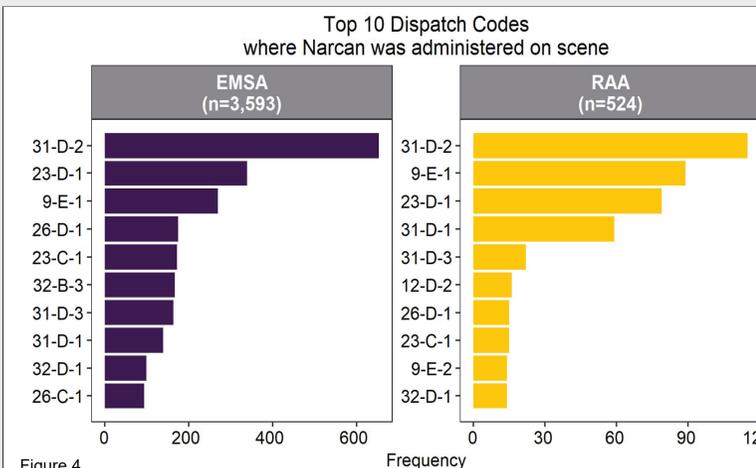


Figure 4

Outcome	Priority Level	EMSA n (%)	RAA n (%)
Improved EMSA (n=1,905) RAA (n=291)	OMEGA	11 (0.58%)	-
	ALPHA	61 (3.2%)	2 (0.69%)
	BRAVO	186 (9.8%)	1 (0.34%)
	CHARLIE	344 (18.1%)	24 (8.2%)
	DELTA	1141 (59.9%)	206 (70.8%)
Unchanged EMSA (n=1,676) RAA (n=160)	OMEGA	10 (0.6%)	-
	ALPHA	55 (3.3%)	3 (1.9%)
	BRAVO	187 (11.2%)	2 (1.2%)
	CHARLIE	268 (16%)	12 (7.5%)
	DELTA	944 (56.3%)	118 (73.8%)
Worse EMSA (n=12) RAA (n=6)	OMEGA	2 (16.7%)	-
	CHARLIE	1 (8.3%)	2 (33.3%)
	DELTA	9 (75%)	4 (66.7%)
	ALPHA	-	3 (4.5%)
	BRAVO	-	3 (4.5%)
No Information Provided RAA (n=67)	ALPHA	-	3 (4.5%)
	BRAVO	-	3 (4.5%)
	CHARLIE	-	6 (9%)
	DELTA	-	31 (46.3%)
	ECHO	-	24 (35.8%)

Table 1

## Discussion

- The data analyzed and presented in the study substantiates the claim that the four major protocols need to be amended to include verbiage related to the use of a specific injectable to treat the type of situation the caller may be experiencing.
- Currently The Medical priority Dispatch System version 13.1 includes instructions by which emergency dispatcher can prompt the caller to find and use NARCAN on overdose victims.
- Further studies need to be performed to effect change for future versions of The Medical Priority Dispatch System to include the question in other protocols.

## Conclusion

The data collected shows suspected overdoses are frequently not reported by the caller as an overdose. There is no continuum as it relates to emergency calls, each is unique prompting both EMD's and first responders to adapt and treat accordingly using caller or patient presentation. The results show NARCAN is being administered across a range of chief complaint protocols most prevalent in the Unconscious / Fainting (Protocol 31), Overdose / Poisoning (Protocol 23) and Cardiac or Respiratory Arrest / Death complaints (Protocol 9).

Protocol advancement and continued research is essential for the MPDS and the EMD to identify and treat suspected opioid overdoses prior to the arrival of responders.

This research may assist public safety administration to better understand opioid overdoses in their communities and supply non-traditional personnel with NARCAN, i.e.: law enforcement, fire/rescue.

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- Richmond Ambulance Authority, Richmond, VA, USA
- Emergency Medical Service Authority, Oklahoma City, OK, USA
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- International Academies of Emergency Dispatch, Salt Lake City, UT, USA

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