REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.

1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED *(From - To)*
04/03/2018	poster	03/04/2018-03/08/2018

4. TITLE AND SUBTITLE
En Route Care: Advancing Trauma Care through Handoffs (E-CATCH) – A Prospective Trial to Improve Handoff Communication, Patient Safety, and Anticipate the Need for Life-Saving Medical Interventions.

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
Maddry, Joseph K, Maj

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
59th Clinical Research Division
1100 Willford Hall Loop, Bldg 4430
JBSA-Lackland, TX 78236-9908
210-292-7141

8. PERFORMING ORGANIZATION REPORT NUMBER
17684

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
59th Clinical Research Division
1100 Willford Hall Loop, Bldg 4430
JBSA-Lackland, TX 78236-9908
210-292-7141

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release. Distribution is unlimited.

13. SUPPLEMENTARY NOTES
Government Services Chapter of the American College of Emergency Physicians (GSACEP), Lake Tahoe, California, March 4-8, 2018

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Clarice Longoria
					19b. TELEPHONE NUMBER *(Include area code)* 210-268-2201

En route Care: Advancing Trauma Care through Handoffs (E-CATCH)

A prospective trial to improve handoff communication, patient safety, and anticipate the need for life-saving medical interventions

Kimberly L. Medellin, BSN RN[1], Nicole M. Shults, BS[1], Shelia C. Savell PhD RN[1], Crystal A. Perez, BSN, RN[1], Alejandra G. Mora, MS[1], Xandria E. Gutierrez, BS[1], Jessie Fernandez, BS[1], Maj Joseph Maddry, MD[1,2]

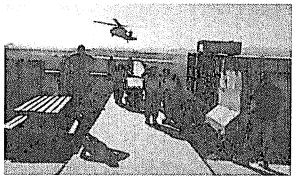
[1]United States Air Force En route Care Research Center/59th MDW/ST – United States Army Institute of Surgical Research, JBSA Ft. Sam Houston, TX [2]Emergency Department, San Antonio Military Medical Center, Ft. Sam Houston, TX

Background

Hospital care is influenced by pre-hospital care and EMS patient handoff communication; however, handoff communication is often lacking. There is a need for definitive evidence regarding the effectiveness of handoff communication. We strived to characterize the care of patients transported by EMS to a single, military level 1 trauma center (SAMMC) and evaluate documentation as it impacts overall care.

Objective

Our aim was to determine which of the sixteen prehospital elements are communicated by EMS to trauma staff, and to identify which, if any, of these elements are associated with the need for life-saving interventions (LSI) within 24 hours of arrival to the trauma center.



Methods

- Data was abstracted from the medical records of patients transported by EMS and treated in the SAMMC Emergency Department.
- Data included the documentation provided by EMS, nursing report, call-in report, emergency room, and procedures done in the first 24 hours of care.
- Up to 2348 data entry fields for were collected for our study database.
- This is an interim, descriptive analysis of an ongoing study.

Results

Table 1: Demographics, Injury, and Reports Reviewed

	Overall n=1002	From Scene n=394	Transfers n=608
Age	445 [28-64]	41 [26-58]	49 [29-69]
Gender (Male)	70%	74%	67%
Injury			
Fall	33%	17%	42%
MVC	27%	34%	23%
Penetrating	13%	20%	9%
Blunt	11%	7%	14%
Other	16%	22	12%
Documentation Available			
EMS Report from Scene	22%	29%	18%
Call-in Report	93%	94%	92%
Nursing Report	95%	-	92%
Report from 1st MTF	59%	-	35%
Transfer EMS Report	43%	-	10%

Figure 1: Percent Documentation per MIST component

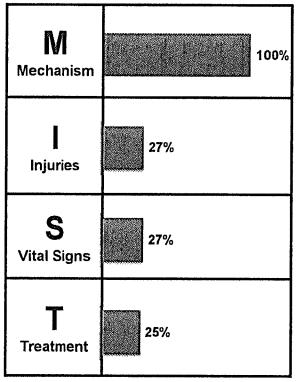
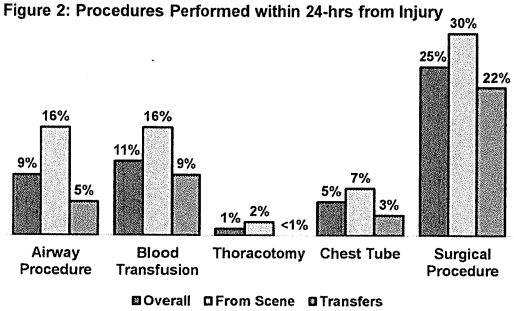


Table 2: Percent Documentation per Prehospital Element

16 Prehospital Elements associated with outcomes	count (%)
Prehospital hypotension (assessed)	361 (92)
GCS Score	341 (87)
Patient Age	392 (99)
End tidal CO_2 value	8 (2)
Pulse rate	360 (91)
Respiratory Rate	289 (73)
Oxygen saturation	337 (86)
Death of an occupant in the same compartment	394 (100)
Blood loss in the field	0 (100)
Mechanism of injury	365 (93)
Intrusion	4 (1)
Extrication time	5 (1)
Estimated crash speed	20 (5)
Anatomic location of injury	375 (95)
Preexisting disease	105 (27)
Prehospital intubation	3 (1)
Median Num. of Elements Documented per Record	8.0 [7.0-8.3]

Figure 2: Procedures Performed within 24-hrs from Injury



- Surgical procedures and blood transfusions were associated with a decreased number of documented pre-hospital elements.
- Respiratory rate, extrication time, and anatomical location were associated ($p<0.001$) with having at least one LSI within 24 hours.
- Mortality rate for patients brought from scene was 5%, and <1% for patients transferred from another facility.

Limitations

- Data was collected retrospectively
- Subjectivity despite trained abstractors
- Data missing or unavailable

Conclusions

In this study, there was limited documentation reflective of care provided prior to arrival to the SAMMC ED. Three of the 16 prehospital elements were associated with having an LSI performed within 24 hours of injury.

Acknowledgements

DoD-Joint Program Committee (JPC6); Air Force En route Care Research Center Team; SAMMC Emergency Department ; BAMC Trauma Registry

This study was conducted under a protocol reviewed and approved by the U S Army Medical Research and Materiel Command Institutional Review Board and in accordance with the approved protocol.
The opinions or assertions contained herein are the private views of the author and are not to be construed as official or as reflecting the views of the Department of the Army, the Department of the Air Force, or Department of Defense

Corresponding author:
joseph.k.maddry.mil@mail.mil