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Effect of FAST-ED Implementation and Age on Distance Patients Travel from Scene to Comprehensive Stroke Center

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INTRODUCTION

The Field Assessment Stroke Triage for Emergency Destination (FAST-ED) is a pre-hospital screening algorithm developed to detect large vessel occlusion (LVO) strokes (Table below). FAST-ED was implemented by Miami-Dade Fire Rescue (MDFR) in March 2017 with a goal to bring potential LVOs directly to a Comprehensive Stroke Center (CSC) by bypassing Primary Stroke Centers and Acute Stroke Ready Hospitals. We assessed whether use of the FAST-ED increased the distance patients traveled to a medical facility.

Item	Score	Item	Score
Arm Weakness		Denial/Neglect	
No drift	0	Absent	0
Drift or some effort against gravity	1	Extinction to bilateral simultaneous stimulation in one sensory modality	1
No effort against gravity or no movement	2	Does not recognize own hand or orients only to one side of the body	2
Speech Changes		Eye Deviation	
Absent	0	Absent	0
Mild to moderate	1	Partial	1
Severe global aphasia or mute	2	Forced deviation	2
Facial Palsy			
Normal or minor paralysis	0	Partial or complete paralysis	1

METHODS

Data from three periods were compared: (A) Mar-Aug 2017 after implementation of FAST-ED, (B) Mar-Aug 2016, the year before implementation, and (C) Sept 2016-Feb 2017, just before implementation (Fig. 1). Distance traveled in miles from scene to our CSC was obtained from MDFR incident reports. Data also were broken down by age (<80 vs. ≥80 years).

RESULTS

- 825 acute stroke alerts were reviewed
- 279 cases in Period A, 259 in Period B, 287 in Period C

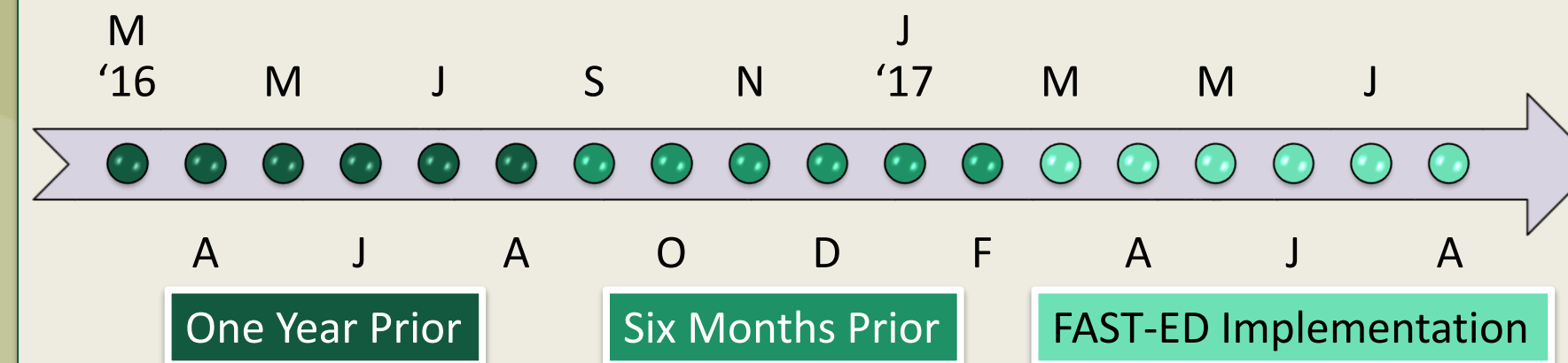


Figure 1. Three comparison time periods: B, C, A

- A two-factor ANOVA with time period (A, B, C) and age group (<80, ≥80) as independent variables determined if FAST-ED implementation and age affected how far patients traveled via ambulance
- Patients ≥80 years traveled shorter distances than those <80 years regardless of time period [F(1,5)=16.124, p<0.001] (Fig. 2)

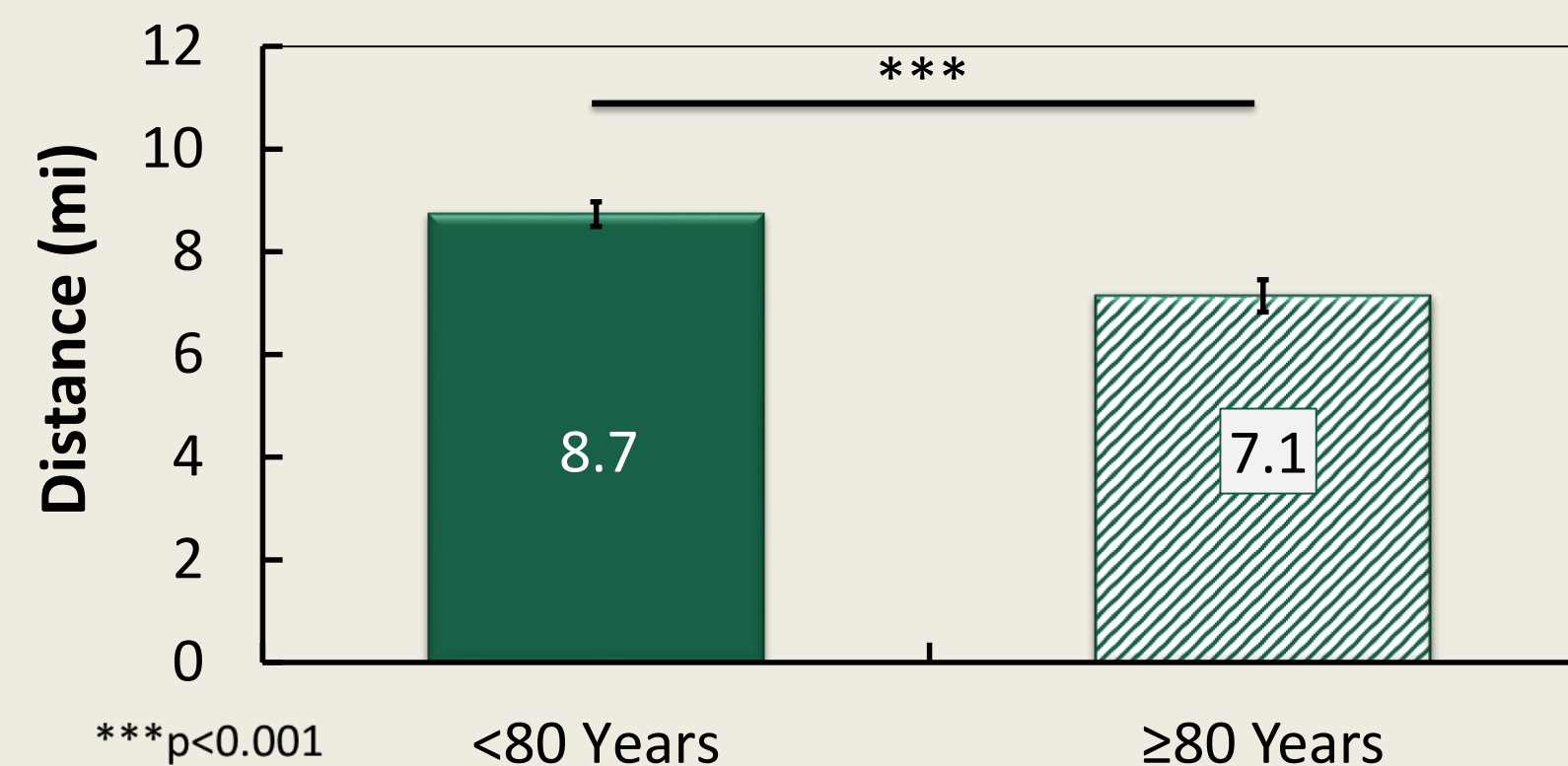


Figure 2. Effect of Age Group on Distance Traveled

- Implementation of FAST-ED did not affect distance traveled (Fig. 3)

RESULTS

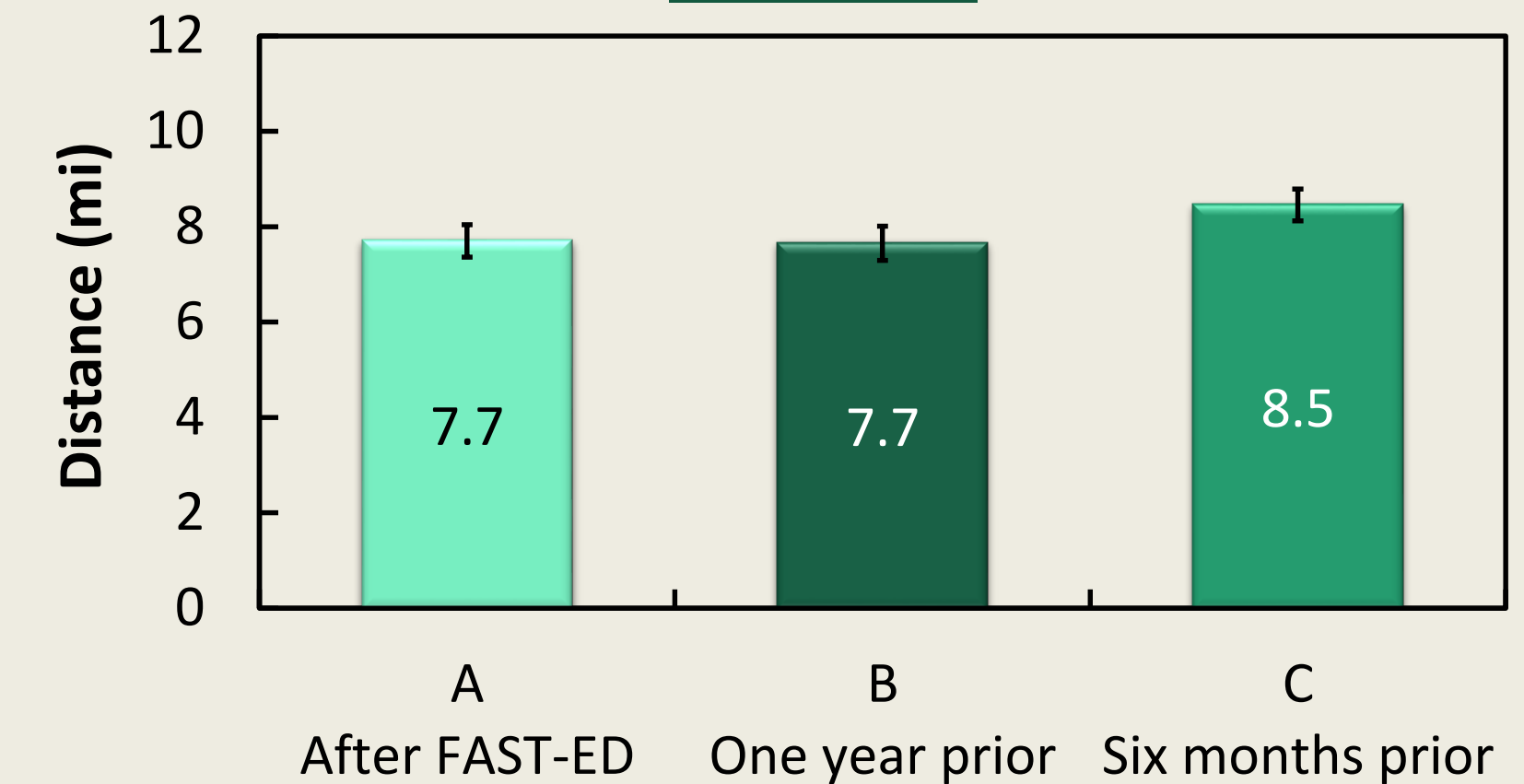


Figure 3. Effect of Time Period on Distance Traveled

- Using three months of data in each period, there was a marginally significant age x time interaction, but it was non-significant with six months of data in each period
- No clear pattern for effect of sex was found using a three-factor ANOVA

CONCLUSIONS

- The FAST-ED EMS initiative to bypass to a CSC did not lead to an increase in distance traveled by patients
- This finding suggests that few patients actually are bypassing other centers
- People ≥80 years traveled shorter distances overall compared to people <80
- Older populations in the county tend to live in developed regions near medical facilities, whereas younger populations tend to live in newer, more affordable regions further from these centers

DISCLOSURES

There are no financial disclosures related to this study.