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Pre-Hospital FAST-ED Initiatives Improve t-PA and Endovascular Treatment Times

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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. Acute stroke outcomes largely depend on timely reperfusion treatment. In March 2017 Miami-Dade Fire Rescue (MDFR) implemented a pre-hospital FAST-ED scale initiative. Those with a score ≥ 4 bypass other centers for a comprehensive stroke center (CSC) and those with a score ≥ 6 also have the neuro interventional team activated from the field during off hours.

PURPOSE

To assess whether the use of the pre-hospital FAST-ED score decreased the door to groin and door to needle times and to compare on and off hours.

METHODS

All stroke cases brought to Baptist Hospital of Miami by MDFR during the months of March through August 2017 were included. Treatment times were compared on vs. off hours and also to those with a FAST-ED score ≥ 6 . We compared our data to the immediately preceding 6 months and also to the same months 1 year ago. We used the FAST-ED score documented on the run sheet.

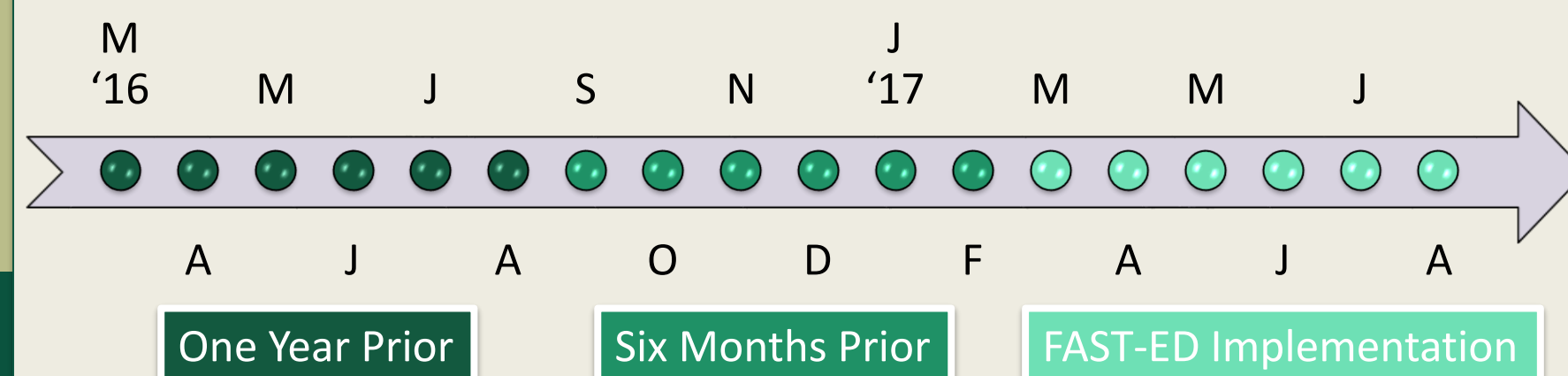


Figure 1. Three time periods for data analysis

RESULTS

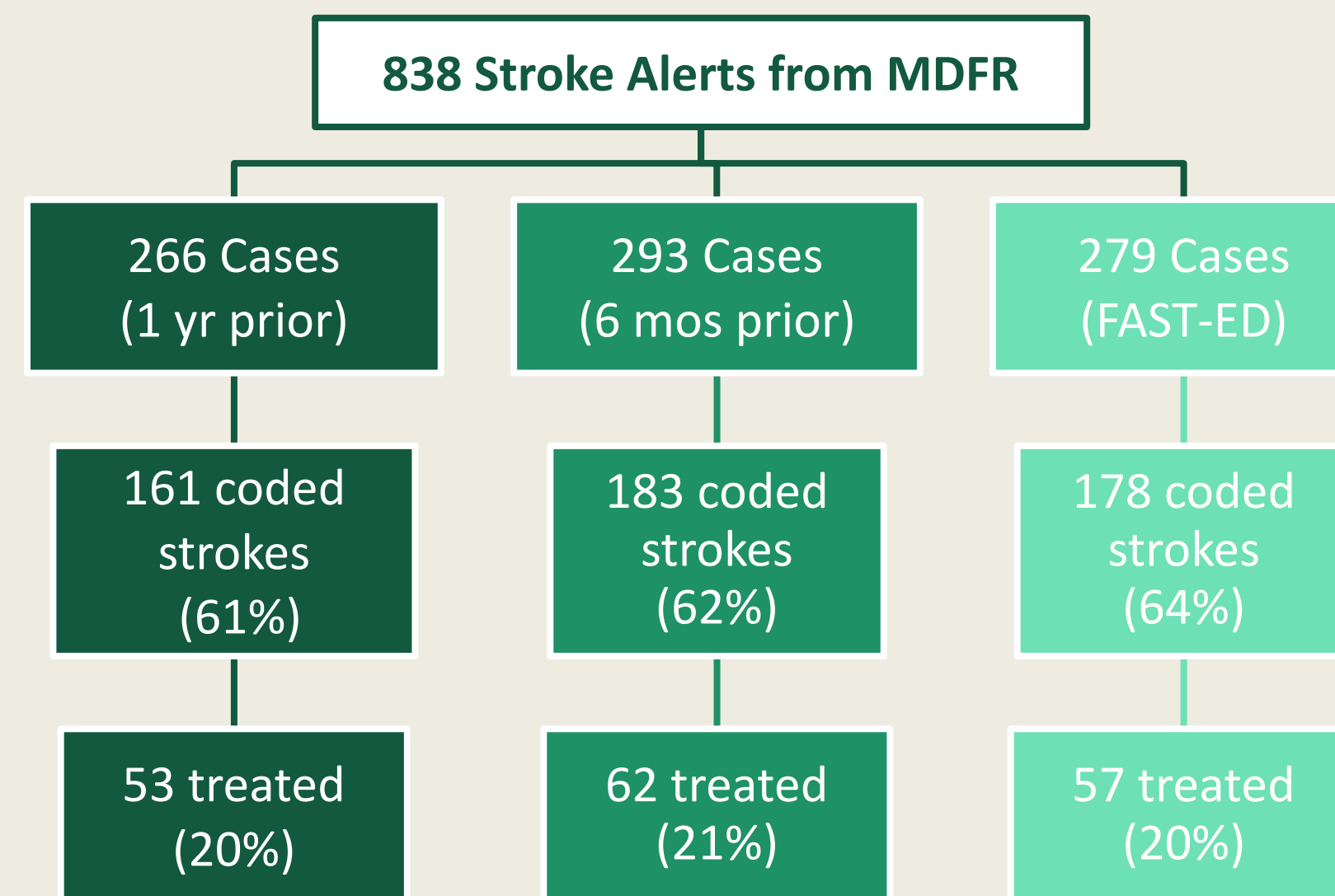


Figure 2. Number of stroke alerts brought by MDFR across three time periods

- Overall, door to needle time (DTN) for IV t-PA remained statistically unchanged after FAST-ED implementation (Figure 3A)
- Off hours, for FAST-ED ≥ 6 , **DTN decreased** by 9 min from the prior year (n.s.) (Figure 3B)
- Overall for endovascular therapy, **door to groin time (DTG) decreased** by 17 min (n.s.) and 30 min ($p < 0.01$) compared to the prior 6 months and to the prior year (Figure 3C)
- Off hours, for FAST-ED ≥ 6 , **DTG decreased** by 32 min (n.s.) and 49 min ($p < 0.01$) from the prior 6 months and prior year (Figure 3D)

RESULTS

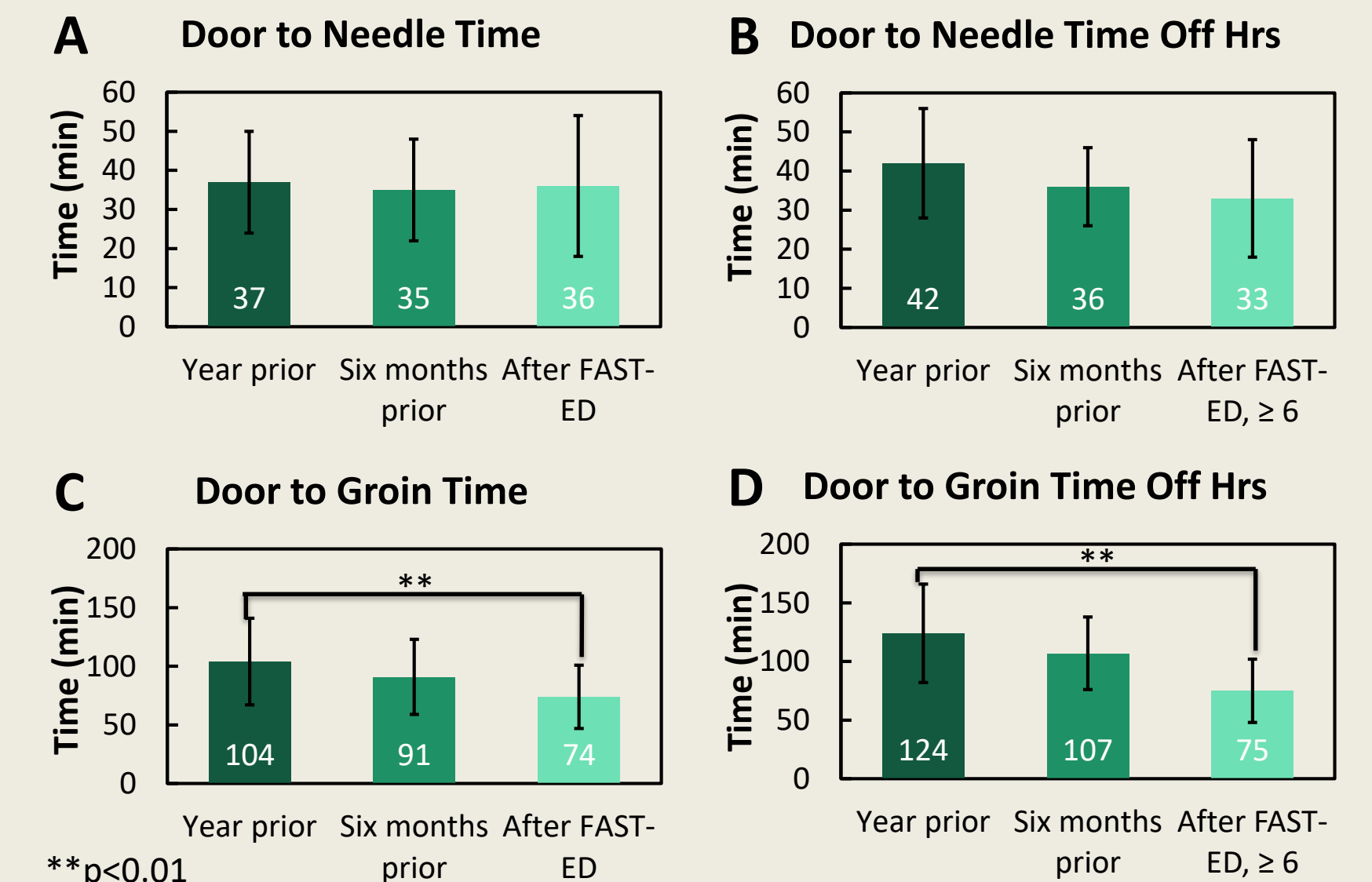


Figure 3. Average \pm SD for DTN (A & B) and DTG (C & D) times. A & C include all cases, B & D include only off hours cases and FAST-ED ≥ 6 .

CONCLUSIONS

- The FAST-ED initiative led to clinically and statistically significant faster treatment times for endovascular therapy but not IV t-PA
- The greatest improvement was for DTG during off-hours for FAST-ED ≥ 6
- Only 1/5 of stroke alert patients received IV t-PA and/or endovascular therapy, so it is important to keep in mind the potential for over-activation of the interventional team during off hours

DISCLOSURES

There are no financial disclosures related to this study.