

Community Education Targeting a Middle East Population Improves Recognition of Stroke Signs and Onset to Door Times

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Introduction

A new model of public education program providing information on the signs of stroke and the importance of getting to the hospital quickly can reduce time to activation of 911 as well as onset to door times. Targeting a population with cultural barriers requires an aggressive approach that can produce meaningful improvements in time to treatment, leading to improved outcomes and reduced length of stay.

Methods

We conducted a retrospective data review of stroke patients from the Middle East in our catchment area, for the last four years (2013 - 2016). Barriers to treatment included educational and cultural issues. The signs of stroke were not well known to the majority of this population and, when identified, the head of the household would often need to be notified prior to activation of EMS. We partnered with this community to develop ongoing individualized community bi-weekly events to stimulate stroke awareness and understanding of the importance of treating stroke quickly.

Results

After implementing a targeted educational program aimed at Middle East residents there was an increase in recognition of signs of stroke. There was also a major reduction in stroke onset-to-ED times (540 minutes in 2013 to 49 minutes in 2016) and increased volume of patients presenting with acute stroke (18 patients in 2013 to 33 patients by the end of 2016), Figure 1.

There was a major increase in the number of treated patients (% treated) over this time period, Figure 2, as many more patients arrived within the 4.5 hour window.

Results

Figure 1- Changes in Volume and Onset to Door (OTD) Times

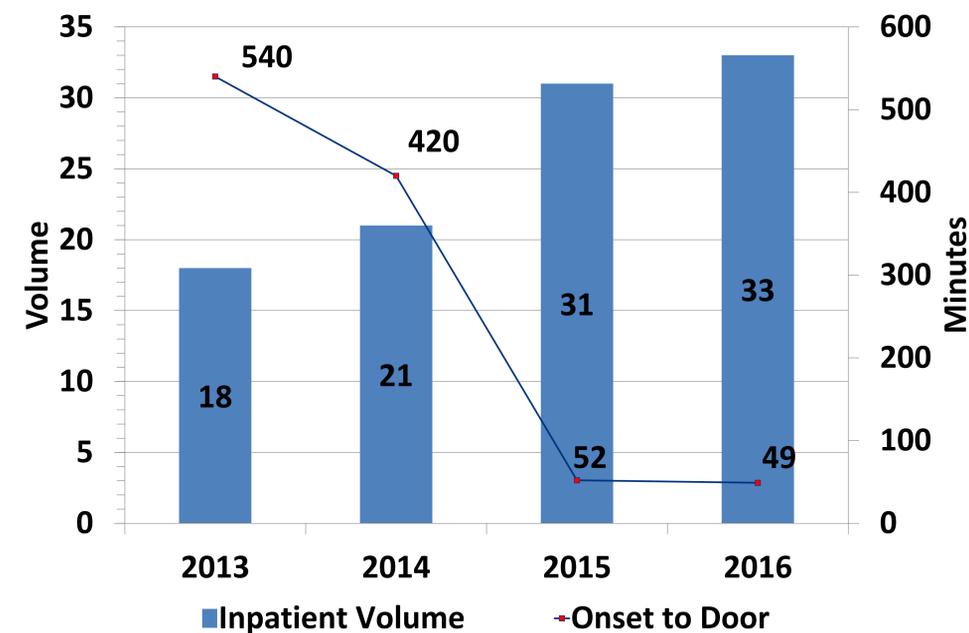
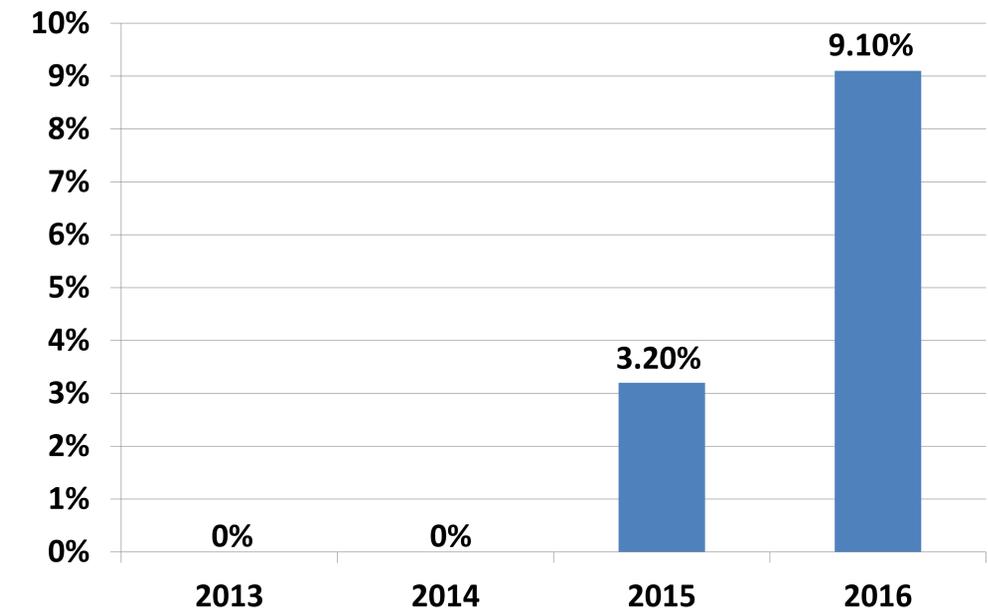


Table 1- Total Positive Stroke Screenings and Overall Individuals Reached

Community Event Location	Total Individuals Educated	Positive Stroke Screenings
Community Center	248	36
Mosque	685	78
Halal Grocery Stores	62	9
Holiday Celebration Gatherings	195	41
Total	1,190	164

Results

Figure 1- Percentage (%) Treated Patients Over Time



Conclusions

1. Populations with educational and cultural barriers may be less likely to be treated for acute stroke.
2. After targeting a cultural population for aggressive stroke education there was an increase in stroke recognition and increase in inpatient volume.
3. After offering individualized community education programs there was a reduction in stroke onset to treatment times.
4. Targeted education may result in meaningful improvements in clinical outcomes, and reduction in lengths of stay.

Presentation Contact

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