STOP STROKE©: A Novel Medical Application to Improve Coordination of Stroke Care: A Brief Report on Door to Thrombolysis Times After Initiating the Application.

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Take Home Points

80% ↑
INCREASE IN STROKE ACTIVATIONS

28% ↑
IMPROVEMENT IN D2N TIMES

156% ↑
IMPROVEMENT IN D2N < 60 MINUTES

Hypothesis

We hypothesized that introduction of a care coordination application to our emergency stroke care would improve time to thrombolysis in acute ischemic stroke (AIS).

Introduction

The objective of our study was to evaluate the effect of the STOP STROKE© medical application on patient arrival to thrombolytic times for patients arriving at our emergency department with AIS. STOP STROKE© is a novel medical application developed by physicians to improve the coordination and communication tasks essential to rapid assessment and care of patients suffering from AIS.

Methods

We conducted a retrospective review of the Good Shepherd Health System stroke dashboard between February 2012 and February 2014 (13 months prior to STOP STROKE© and 12 months after). The stroke dashboard is a quality improvement database for acute stroke activations in patients arriving to our level II emergency department with annual volumes of 90,000. We analyzed all data from CMS reportable cases receiving TPA for AIS during the study period. The primary outcome was mean Door-to- Needle (DTN) times before and after initiating STOP STROKE©. Secondary outcome was the effect on the DTN <60 min benchmark.

Results

During the study period we had 533 stroke activations (200 pre-application and 333 post-application), representing an 80% increase in activations after the app. A total of 85 patients received TPA therapy for AIS (41 pre-application and 44 post-application). Of these, 17 cases were excluded that did not meet CMS criteria for reporting. We observed the mean D2N times post STOP STROKE© decreased 21 min (77 - 56min), a 28% improvement (p=0.001). Further, the patients meeting D2N < 60 min improved from 32% (11/34) to 82% (28/34) after the app.

Conclusions

In this cohort of patients with AIS, STOP STROKE© improved mean D2N times and number of patients treated within 60 min of arrival. Further we saw an increase in total stroke activations. We conclude our results demonstrate the app's effect of increasing awareness of suspected AIS and improved coordination of care, evidenced by the magnitude of its effect on treatment times.

Institutions

BCM® Baylor College of Medicine

GOOD SHEPHERD HEALTH SYSTEM

MidCentral District Health Board
Te Poari Hauora o Ruahine o Tararua

pulsara