Differential Protocol Adherence Affects Rates of TPA Delivery

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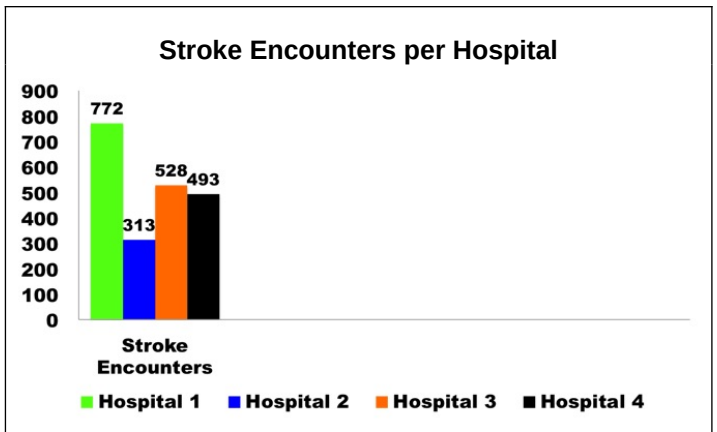
Introduction

Multiple factors influence a given institution's capacity to deliver intravenous tpa to eligible stroke patients. We have previously described a system of care which delivered intravenous tpa to nearly 9% of eligible stroke patients presenting to one of our system institutions. We present contrasting results from a system-wide stroke process in which hospitals had markedly different tpa delivery rates for stroke patients based on adherence to agreed upon processes.

Methods

The St. John Providence Health System (SJPHS) treats more than 1600 stroke victims annually. Of 6 system hospitals, 4 are certified primary stroke centers. We have previously described an integrated system of care involving triage, CT algorithms, as well as physician benchmarks which elevated the delivery rate of tpa to nearly 100% of eligible patients. Our ongoing prospective data collection reveals trends in delivery rates related to deviation from agreed upon treatment protocols at specific institutions.



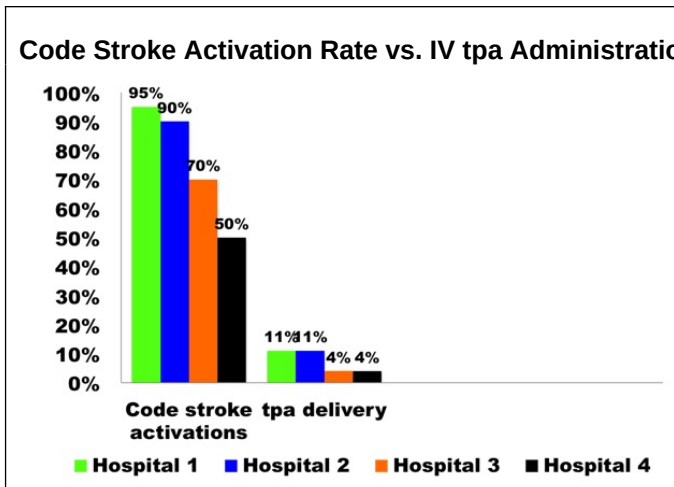
Inpatient and outpatient strokes per hospital.

Results

All data was collected from our 4 primary certified stroke centers, 3 of which have neuroendovascular coverage 24/7. Teleradiology is available for immediate viewing of imaging studies at all facilities. Two sites routinely activated code stroke alerts upon patient arrival in the emergency room; alerting CT, neurology, and the neuroendovascular team. This activation occurred uniformly for well over 90% of all patients at Hospitals 1 and 2. Two institutions had diffential protocol adherence: Hospital 3 failed to routinely activate the code stroke until after ER physician evaluation and image acquisition. Hospital 4 altered the code stroke activation to an evaluation by resident staff and mid -level providers rather than immediate alerts to neurology and neuroendovascular specialists. The hospitals in the compliant cohort delivered tpa at an 11% rate to all patients triaged as stroke victims during 2011. Patients in the non-compliant cohort delivered tpa at a rate of 4%.

Conclusions

Adherence to multidisciplinary evaluation and treatment algorithms has a positive influence on tpa delivery rates.



The graph shows the relative correlation between strict adherance to algorithms and tpa delivery rates to all patients presenting with symptoms of stroke.

Learning Objectives

Participants will understand the impact that adherence to process protocols and multidisciplinary evaluation can have on treatment delivery.