Methods and Data Collection

Of the patients who met inclusion criteria, many variables and values were collected from each encounter for further analysis including:

- **Demographics**: age, sex, race, ethnicity, insurance status
- **Times**: door to CT, door to TPA, symptom onset, length of stay in the hospital, length of stay in the ICU
- **Medical Histories Of**: stroke, liver disease, end stage renal disease, diabetes, atrial fibrillation, sedentary lifestyle, cancer, dyslipidemia, hypertension, clotting disorder, patent foramen ovale
- **Social Histories Of**: cocaine use, IV drug use, smoking
- **Medication Histories**: anticoagulants, antiplatelets, oral contraceptive pills, hormones, chemotherapeutics, insulin
- **Diagnostics**: CT results, CTA results, CT Perfusion results, MRI results, stroke panel values, vital signs
- **Interventions & Outcomes**: tPA administration, thrombectomy performed, cranial decompression performed, final outcome, ED diagnosis, discharge diagnosis
- **Scores**: Initial NIHSS by Emergency Department & Stroke Team, NIHSS at discharge, mRS at discharge

The necessary sample size for this study was calculated to be 341 using STATA®14 assuming an alpha of 0.05 and a power of 0.9.

A logistical regression model will be used to determine an NIH stroke scale level as well as identify variables and values that are predictive of a stroke.

- Thus far, we have successfully completed review of 1283 patient charts. 339 of these charts were activated code strokes and thus were our target population.

![Figure 1: Hemorrhagic stroke. Arrows indicate areas affected by this type of stroke. Lighter areas show the bleeding from the stroke.](image)

![Figure 2: Ischemic stroke. The arrows indicate damage that was sustained from getting is parts of the brain. Darker areas show from this has impacted the brain.](image)

![Figure 3: Data input tool used in Microsoft Excel. Each variable was assigned number values and transposed into data sheet to be used for statistical processing](image)

Discussion and Observations

- Although still waiting for data collection completion before beginning statistical analysis, several trends have been identified in the data.
  - It will be of interest to see if there is a statistical significance to these trends.
- Our Major question for the study is how predictive is the National Institute of Health's Stroke Scale (NIHSS) in determining whether a patient is having a stroke (and thus, a ‘code stroke’ needs to be called in the ED).
- On visual analysis, it appears that a surprisingly large population of patient’s present to the ED outside of the IPA window.
  - Being outside of the IPA window has implications in the treatment plan and prognosis if the patient is having an ischemic stroke.
- The most common diagnosis for patients who did not actually have a stroke (Were a code stroke, but pt. did not actually have a stroke) was a Transient Ischemic Attack (TIA).
- As expected, many patients that presented as code-stroke to the ED had a medical history with any combination of: Diabetes Mellitus, Hypertension, Atrial-Fibrillation, and smoking history.
  - It will be of interest to see if having a certain number of chronic medical conditions is a good indicator of an actual stroke.

NEXT STEPS

Once we complete data collection, which we are expecting to complete as quickly as possible (within 5-6 weeks), we will compile all the data and present it for statistical analysis.

- We will be working with a statistician to analyze the data via a linear regression.
- First, as mentioned prior, we will analyze whether the NIHSS is a good predictive tool for determining if a patient is having a stroke or not.

**Following data analysis this poster will be updated with our data**.

REFERENCES


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