Final Project- Stroke?

Adan Bonilla, Allison Hsu, Imanuel Gemilang, Jun Yoo

Per CDC, stroke kills about 140,000 Americans each year—that’s 1 out of every 20 deaths. Every year, more than 795,000 people in the United States have a stroke. About 610,000 of these are first or new strokes. Stroke costs the United States an estimated $34 billion each year. This total includes the cost of health care services, medicines to treat stroke, and missed days of work.

The common diagnostic procedure for stroke patient would be brain MRI. However, MRI has a general contraindication in patient with cardiovascular implanted electronic devices such as cardiac pacemakers or cardioverter defibrillators (ICDs), and it also takes about 3 days for a patient to have MRI done in the hospital setting. The symptom of stroke is also easily confused with other diagnosis, such as Bell’s palsy and TIA. These are reasons may cause patient missing the golden hour of treatment.

Based on the information from American heart association, Get With The Guidelines® - Stroke Overview, there are concerns for gender, age, race/ ethnicity and medical conditions, including Atrial Fib/Flutter, CAD/prior MI, Carotid Stenosis, Current pregnancy (up to 6 weeks post partum), DVT/PE, Depression, Diabetes Mellitus, Drugs/Alcohol Abuse, Dyslipidemia, Familial hypercholesterolemia, Family History of Stroke, HF, HRT, Hypertension, Migraine, Obesity/Overweight, Previous Stroke, Previous TIA, Prosthetic Heart Valve, PVD, Renal insufficiency – chronic, Sickle Cell, Sleep Apnea, and Smoker.

Data is extracted from inpatient admissions in year of 2019, and identified the patient’s acute/ chronic/ underlying condition thru ICD-10-CM codes from each admission.

After the analysis, it will present the regression for stroke patients with gender, age, race/ ethnicity and top 5 medical conditions.

Reference:

* <https://www.cdc.gov/stroke/facts.htm>
* <https://www.heart.org/en/professional/quality-improvement/get-with-the-guidelines/get-with-the-guidelines-stroke/get-with-the-guidelines-stroke-overview>
* <https://www.cms.gov/Medicare/Coding/ICD10>