ixs. SAS version 9.2 was used for analyses of data. Descriptive statistics were obtained by using survey frequency procedures that accounted for survey design and weighting. Weighted analyses were performed using survey logistic procedure controlling for interactions amongst the independent variables. RESULTS: During the 2 year period from 1998 to 2000, 3,590 patients representing 12,769,828 CAD patients were identified. A total of 340 CAD patients representing 1,229,496 patients underwent CT scan procedure. Observations with missing data were deleted as it constituted less than 1% of the total identified population. Following variables were found significantly associated with a probability of getting a CT scan: Pain level, EKG and was seen, physician assistant seen, Race/ethnicity and Mode of Arrival. These variables do not act in isolation and interactions between them were considered in the analyses CONCLUSIONS: The use of CT scan as a diagnostic tool in CAD patients admitted in ED depends on a multitude of interdependent factors such as patient characteristics defined by painlevel, race/ethnicity, provider characteristics or the type of provider seen and type of health service utilized such as ambulance and concurrent EKG use.

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COST-EFFECTIVENESS OF PERFUSION IMAGING WITH COMPUTED TOMOGRAPHY TO IDENTIFY PATIENTS FOR INTRAVENTRIOUS THROMBOLYSIS: A HOSPITAL PERSPECTIVE
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OBJECTIVES: Better selection of ischemic stroke patients for intravenous recombinant tissue plasminogen activator (IV tPA) treatment based on the penumbra hypothesi is allows patients to benefit from a sensitive (s) and specific (s) computed magnetic resonance imaging (s) based on the premise that more patients can be identified for IV tPA treatment. METHODS: A decision-analytic model was developed to estimate costs and outcomes associated with selecting patients for IV tPA treatment via CT compared to current usual care of selection based on CT scan and patient history from a hospital perspective. The patient population was similar to that observed in the IV tPA clinical trials included in a recent meta-analysis. Clinical data was derived from published clinical trials. Costs were obtained from standard US costing sources and utilities were obtained from published literature. All costs are presented by year 2009, US dollars inflated to 2009 dollars. Outcomes are discounted and are presented in 2009 US dollars. Outcomes included cost per life-year saved and cost per quality-adjusted life-year (QALY) gained. Sensitivity analyses were conducted. RESULTS: From the hospital perspective, the addition of penumbral-based CTP selection improved favorable outcome (modified Rankin Scale ≤2) by 0.39% and reduced cost by $42 compared with usual CT-based selection at hospital discharge. Life years and QALYs improved which resulted in the addition of penumbral-based CTP selection in being cost-savings to hospitals. Multivariate sensitivity analysis predicted cost-effectiveness ($50,000 per QALY) in 89.2% of simulation runs. CONCLUSIONS: Given costs and the limited availability of MRI, penumbral-based CTP after routine CT is a cost effective alternative for hospitals in selecting ischemic stroke patients for IV tPA treatment.

THE COST-EFFECTIVENESS OF GENOTYPING CYP2C19 TO GUIDE ANTIPLATELET THERAPY SELECTION
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OBJECTIVES: The recent re-label of clopidogrel to include information on CYP2C19 genotype and the approval of a second-generation antiplatelet medication, prasugrel, could greatly impact the way antiplatelet therapy is prescribed. This study assesses the cost-effectiveness of genotyping patients to guide selection of antiplatelet therapy with clopidogrel or prasugrel. METHODS: A decision tree was created using prevalence of CYP2C19 metabolism status, cardiovascular events, and bleeding events and costs of events as reported in the literature and publically available FDA advisory committee documents. In the genotype arm, an individual’s metabolic status determined medication selection. Effect was defined as the cost per event avoided. Scenario analyses that were conducted to determine the robustness of the model included scenario A: clopidogrel use without genotyping and scenario B: prasugrel use without genotyping. Number needed to genotype to avoid one cardiovascular or bleeding event from occurring was also determined. RESULTS: The probability of being a ultra-rapid or extensive metabolizer of CYP2C19 was 73% and the probability of being an intermediate or poor metabolizer was 27%. For the no-genotype arm, the estimated proportions of medication selection used were 70% to receive clopidogrel and 30% to receive prasugrel. The model favored the intervention of genotyping patients to determine antiplatelet therapy (ICER: $20,049). Both scenario analyses exhibited a dominant strategy of genotyping patients (ICER: $\leq 21,833 and ICER: $\leq 15,918).

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CONCLUSIONS: The cost-effectiveness analysis suggests it is more effective and less costly to genotype patients prior to selecting clopidogrel or prasugrel for the patient’s antiplatelet therapy.