Epidemiology and Associated Risk Factors of Stroke (continued)

- Medications make up a significant proportion of the acute care cost. A Japanese study found that antithrombotic medications were given to 94% of patients diagnosed with ischemic stroke ... that patients received an average of 11.3 prescriptions for medications from 5.4 different drug classes. The most common medications were antihypertensive, anticoagulant, and lipid lowering medications [27].

- Hypertension may be more strongly associated with ischemic stroke than with hemorrhagic stroke [12], but it remains a strong risk factor for both stroke subtypes.

- Diabetes is a risk factor for both ischemic and hemorrhagic stroke types and has been found to be associated with stroke mortality [13, 35]. A study by Almdal et al. [1] found that the relative risk for stroke increased 2.6- to 6.5-fold in women with diabetes and 1.5- to 2-fold in men with diabetes.

- The prevalence of stroke or transient ischemic attack (TIA) is also an important risk factor [38] particularly when studies are not limited to patients with a recent history of stroke.

- In the Northern Manhattan Stroke Study, blacks were found to have a 2.4-fold increased stroke incidence and Caribbean Hispanics had a 2-fold increased incidence compared to whites in their community [32].

- Hypertension and diabetes, as independent risk factors, are both more prevalent in blacks and in Caribbean Hispanics than in whites, while atrial fibrillation and coronary artery disease are more common in whites [22].

Healthcare Costs and Resource Utilization of Stroke and Associated Risk Factors (continued)

- When disaggregated by race-ethnic group, African Americans had the highest per capita stroke costs, followed by Hispanics and non-Hispanic whites [4]. Male sex and stroke severity (NIHSS score or extreme functional loss/severity) were also predictors of higher costs.

- A few studies have been published that look at the effect of various risk factors on the costs of stroke:
  - Smoking: One Australian study found that a decreased smoking prevalence could save $3050 in stroke hospitalizations and would save $20.4 million in health care costs.

- Although data exist on the incremental costs of stroke, very few studies have been conducted to determine the total costs and resource utilization with hemorrhagic stroke types. These stroke types are especially important because they are more severe and cause more complications, leading to much higher costs.

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Discussion and Gap Analysis

- Although ischemic stroke, the most common stroke type, has significant health-economic data, there is a lack of information on the costs and resource utilization with hemorrhagic stroke types. These stroke types are especially important because they are more severe and cause more complications, leading to much higher costs.

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Conclusion

Several previous studies have published estimated costs associated with stroke but very limited data exists on the impact of specific stroke risk factors on stroke-associated utilization costs and costs of stroke.