

Ethnic Disparities in Acute Stroke Care in New York State

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Presenter Disclosure Information

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FINANCIAL DISCLOSURE:

No relevant financial relationship exists

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None

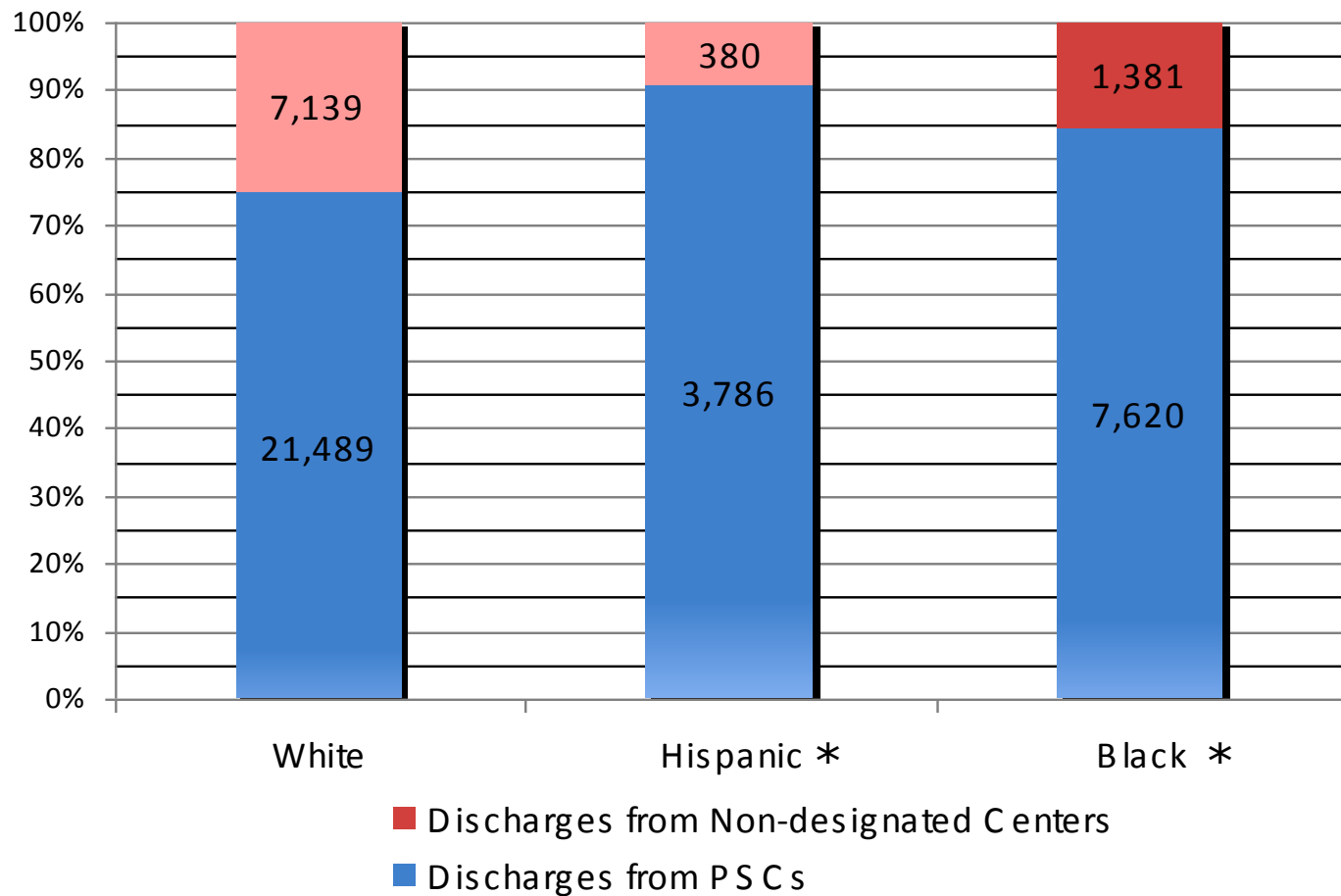
Background

- African Americans have a greater burden of disease in stroke, greater mortality, and greater severity of strokes. Evidence for disparities among other ethnic groups is less conclusive. There is limited and conflicting evidence regarding ethnic disparities in acute stroke care.[1]
- The literature is not clear regarding how much of acute stroke care disparities are related to differences in access versus utilization of care. Our goals were to assess whether significant ethnic disparities in acute stroke care exist in New York State (NYS), and whether disparities are related to differences in access to care, utilization of services, or both

Methods

- NYS Statewide Planning and Research Cooperative System (SPARCS) data was used to identify all patients from NYS with a principal diagnosis of acute ischemic stroke (AIS, ICD-9 Diagnosis code of 433.01, 433.11, 433.21, 433.31, 433.91, 434.01, 434.11, or 434.91)
- Included patients discharged from 1-1-2007 through 12-31-2008
- Data were analyzed with respect to
 - race/ethnicity (White, Black, or Hispanic)
 - discharge from a NYS designated Primary Stroke Center (PSC)
 - use of intravenous t-PA
- *Get With The Guidelines* data was used to examine the relationship between ethnicity and
 - percent of AIS patients arriving < 2 hours
 - percent arriving < 2 hours who were eligible for t-PA for whom t-PA was initiated < 3 hours
- Univariate data were analyzed by contingency tables, and when a significant association was demonstrated ($p < 0.05$), additional 2 X 2 chi square tests were performed to test specific relationships

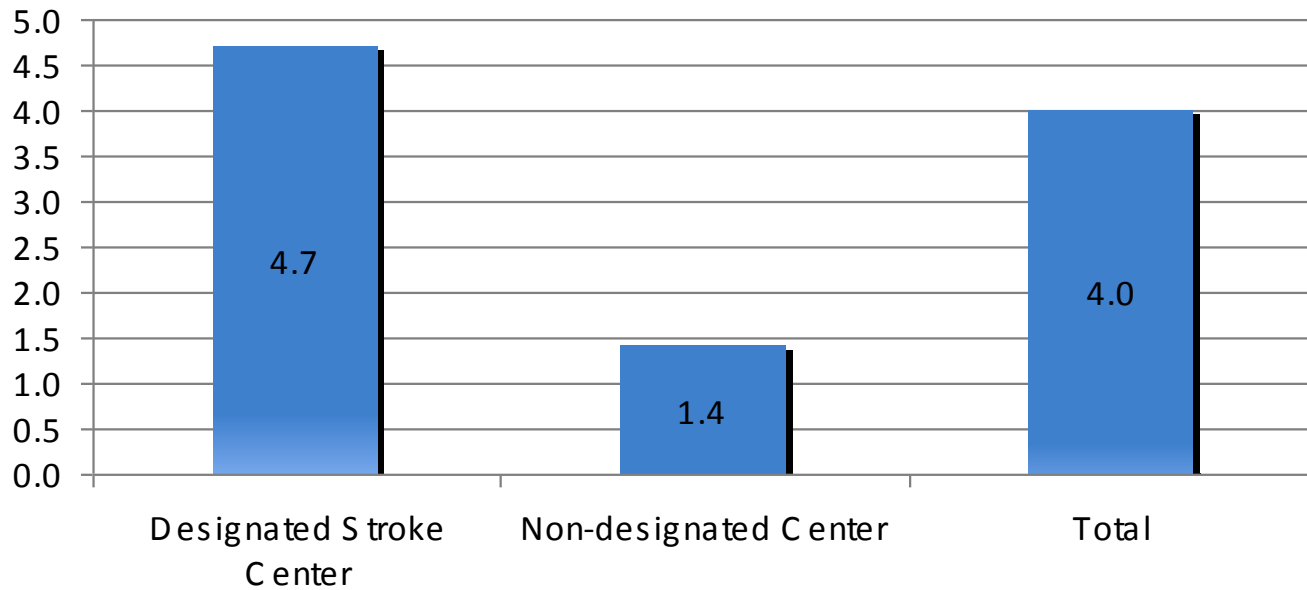
Location of ischemic stroke treatment in New York State in 2007 and 2008 by Ethnicity



* $p < 0.0001$ vs. Whites

What percentage of ischemic stroke patients were treated with iv tPA in New York State in 2007 and 2008?

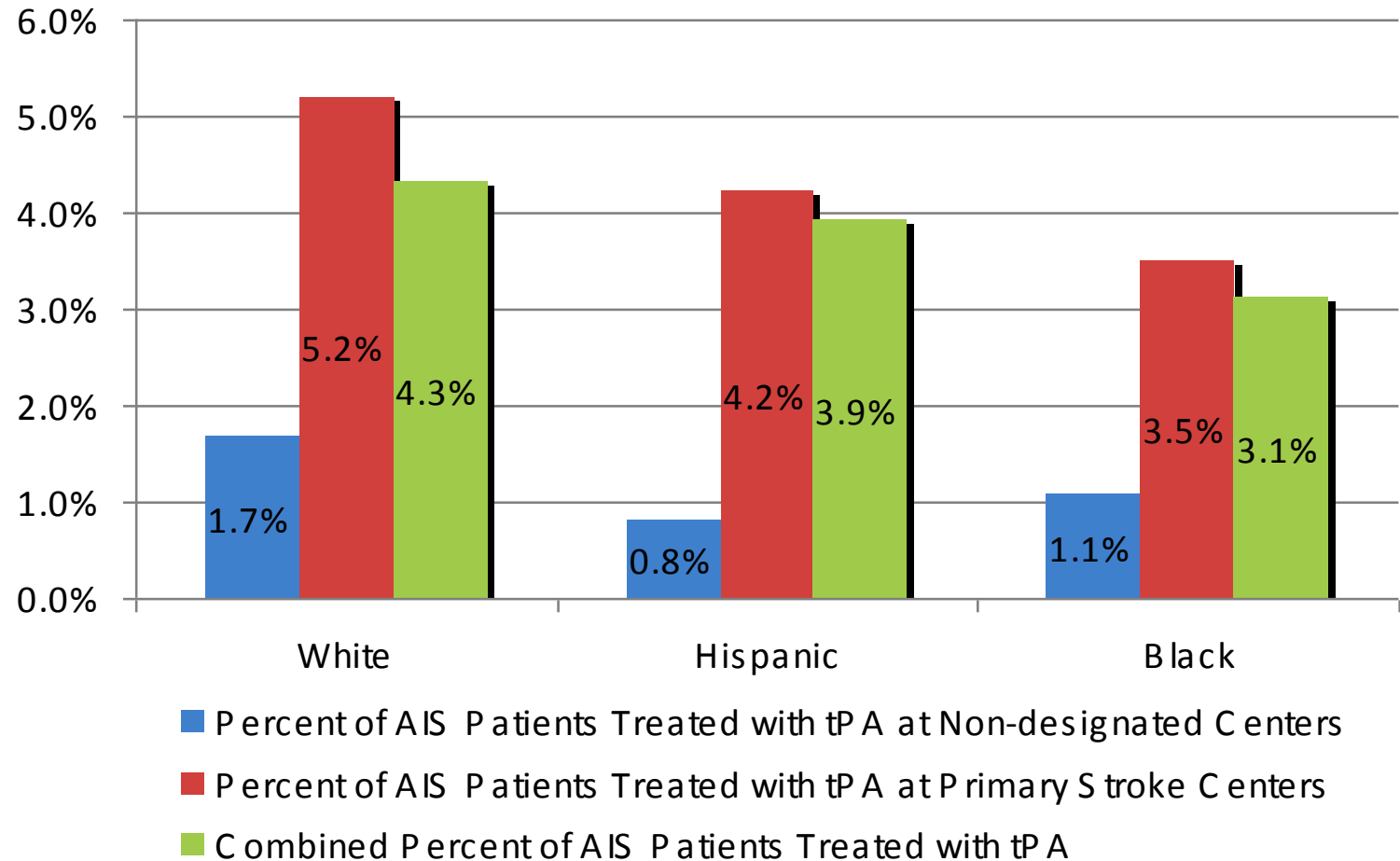
Percent of AIS Patients Treated with iv tPA by Designation Status



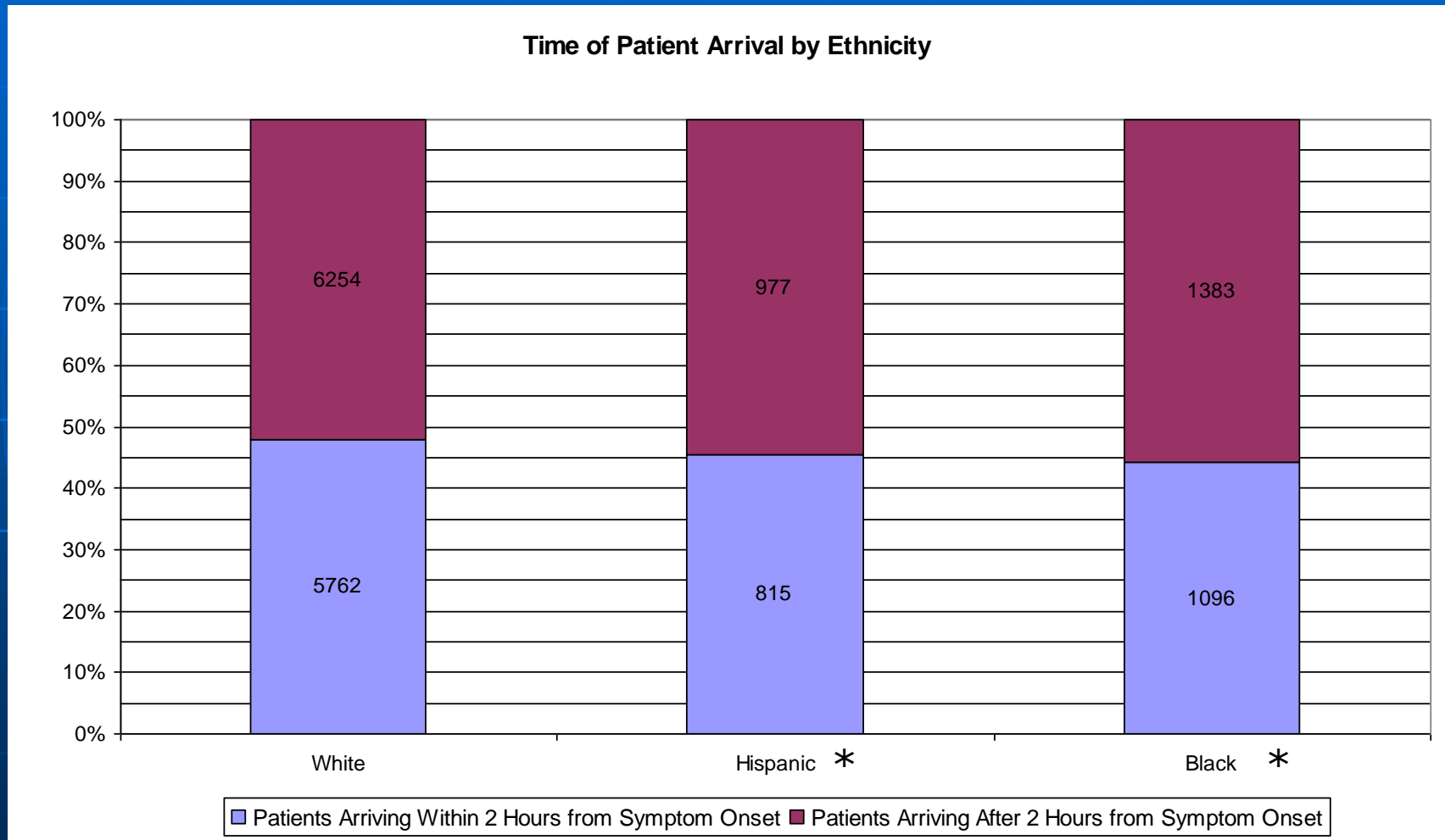
$p < 0.0001$

Treatment Location

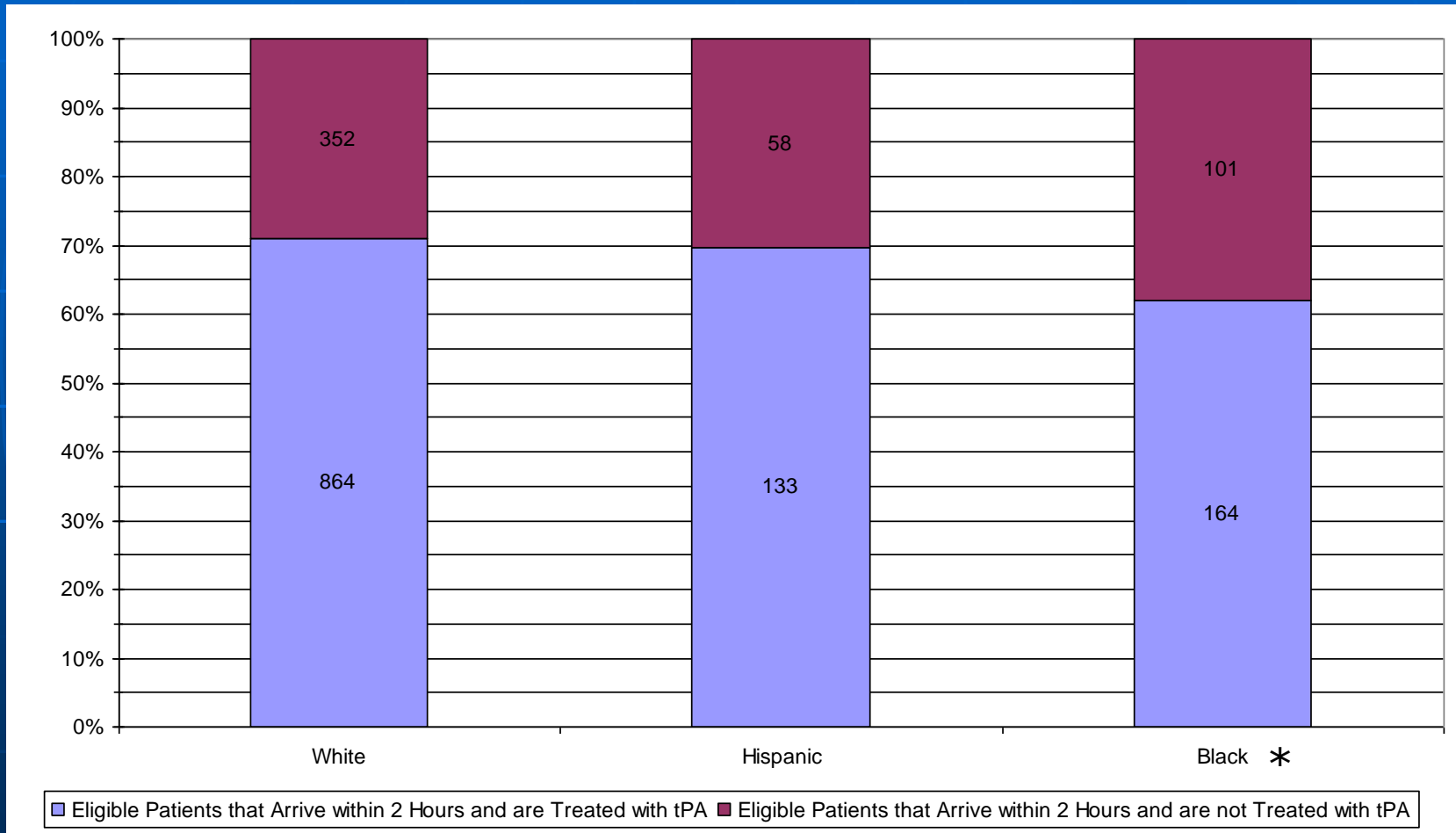
tPA Administration in New York State in 2007 and 2008 by Ethnicity



Percent of Ischemic Stroke Patients Arriving within 2 Hours by Ethnicity in NY State in 2007 and 2008



Percent of eligible stroke patients who arrive at the hospital within 2 hours for whom IV t-PA was initiated within 3 hours in NY State in 2007 and 2008



Discussion

- This is the first study to specifically examine ethnic disparities in designated stroke centers. The higher rates of minority access to PSCs are likely related to the urban concentration of stroke centers of the northeastern United States. [2] We found over three times the rate of t-PA treatment at PSCs compared to non-designated hospitals.
- Unfortunately, even at PSCs, there were lower rates of t-PA treatment in Blacks and Hispanics compared to Whites. This is consistent with prior studies showing that Blacks were less likely than Whites to receive t-PA in a variety of settings,[3-5] but contrasts with a recent analysis of GWTG hospitals, in which Hispanic and White patients had similar rates of treatment with t-PA.[3]
- We found lower rates of timely hospital arrival of Blacks and Hispanics compared to Whites. This is consistent with the results of some prior studies, [6-8] but not others.[9-11]
- The reasons underlying acute stroke care disparities may differ between different ethnic groups. While significantly fewer eligible Black patients were treated with t-PA compared to White patients, we found no significant difference in t-PA treatment rates of eligible Hispanic and White patients. This is consistent with results of prior studies.[3, 4]

Conclusions and Future Plans

- Access to care does not guarantee utilization, particularly for Blacks. Black and Hispanic AIS patients were more often treated at PSCs compared to Whites. Yet, a lower percent of Blacks and Hispanics were treated with t-PA, reflecting both lower rates of timely hospital arrival and less frequent treatment of eligible patients.
- We plan to
 - Investigate the reasons for differential access and utilization of services
 - Evaluate the role of pre-hospital care/EMS arrival on ED care processes
 - Assess the impact of stroke center designation on ethnic disparities in acute stroke care
 - Perform multivariate analysis

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