

Racial & Ethnic Disparities in Incidence and Inpatient Outcomes of Acute Stroke Project Summary

Most of the current literature on racial and ethnic disparities in stroke comes from comparing whites with minorities. To identify key modifiable factors underlying these disparities, we propose an alternative approach that follows from recognizing that there is immense diversity in stroke (ischemic and hemorrhagic) incidence and outcomes within each racial and ethnic subpopulation. Factors underlying higher incidence or worse outcomes for blacks may be different than those for Hispanics.

As a preliminary demonstration, we examined incidence of acute ischemic stroke using data of all inpatient admissions in New Jersey and Arizona (2002-2004). Non-Hispanic whites, non-Hispanic blacks and Hispanics were each stratified into three income categories – lower, middle and higher; age-sex adjusted acute stroke incidence rates were obtained for each cohort. A remarkably puzzling – and to the best of our knowledge previously unreported, finding is that in both the states, the stroke rate for Hispanics was systematically higher for higher income groups. In contrast, the income gradients for blacks and whites were downward sloping.

The usefulness of this approach is immediately apparent. In New Jersey and Arizona, the excess stroke rate (relative to same-income whites) for Hispanics is 25% for lower income cohort but 200% for higher income cohort. Therefore higher incidence risk among Hispanics may be less due to SES-related potential factors (limited insurance, low income, public assistance, physician supply) and more due to potential factors such as physiological risk factors (diabetes, obesity, hypertension), health behavior (smoking, exercise), risk awareness, geographic location and provider-related characteristics. Limiting analysis to each racial/ethnic subgroup, our objective is to identify and assess which potential factors influence “excess” risk of stroke incidence and adverse hospital outcomes for the three racial and ethnic subpopulations. We propose to use data on all inpatient discharges during 2005-2007 from nine states (AZ, CA, FL, MA, NJ, NY, PA, SC and TX) with sizable minority populations. Incidence rates will be obtained by combining Census populations of each cohort. Hierarchical multivariate regression models negative binomial, logistic and linear, will be used to estimate the influence of each potential factor.

Publications:

Hanchate AD, Schwamm LH, Huang W, Hylek EM. Comparison of ischemic stroke outcomes and patient and hospital characteristics by race/ethnicity and socioeconomic status. *Stroke*. 2013 Feb;44(2):469-76. doi: 10.1161/STROKEAHA.112.669341. PubMed PMID: 23306327; PubMed Central PMCID: PMC3595403.