Incident cognitive impairment is elevated in the stroke belt: the REGARDS study.

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Authors Wadley, VG, Unverzagt, FW, McGuire, LC, Moy, CS, Go, R, Kissela, B, McClure, LA, Crowe, M, Howard, VJ, Howard, G

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Abstract

**OBJECTIVE:** To determine whether incidence of impaired cognitive screening status is higher in the southern Stroke Belt region of the United States than in the remaining United States.

**METHODS:** A national cohort of adults age ≥45 years was recruited by the Reasons for Geographic and Racial Differences in Stroke (REGARDS) study from 2003 to 2007. Participants' global cognitive status was assessed annually by telephone with the Six-Item Screener (SIS) and every 2 years with fluency and recall tasks. Participants who reported no stroke history and who were cognitively intact at enrollment (SIS >4 of 6) were included (N = 23,913, including 56% women; 38% African Americans and 62% European Americans; 56% Stroke Belt residents and 44% from the remaining contiguous United States and the District of Columbia). Regional differences in incident cognitive impairment (SIS score ≤4) were adjusted for age, sex, race, education, and time between first and last assessments.

**RESULTS:** A total of 1,937 participants (8.1%) declined to an SIS score ≤4 at their most recent assessment, over a mean of 4.1 (±1.6) years. Residents of the Stroke Belt had greater adjusted odds of incident cognitive impairment than non-Belt residents (odds ratio, 1.18; 95% confidence interval, 1.07-1.30). All demographic factors and time independently predicted impairment.

**INTERPRETATION:** Regional disparities in
cognitive decline mirror regional disparities in stroke mortality, suggesting shared risk factors for these adverse outcomes. Efforts to promote cerebrovascular and cognitive health should be directed to the Stroke Belt.

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