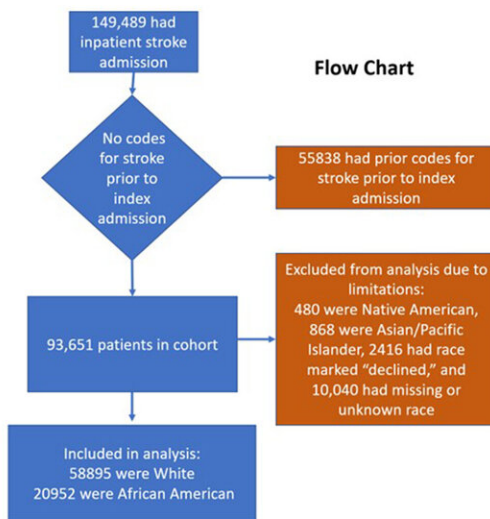


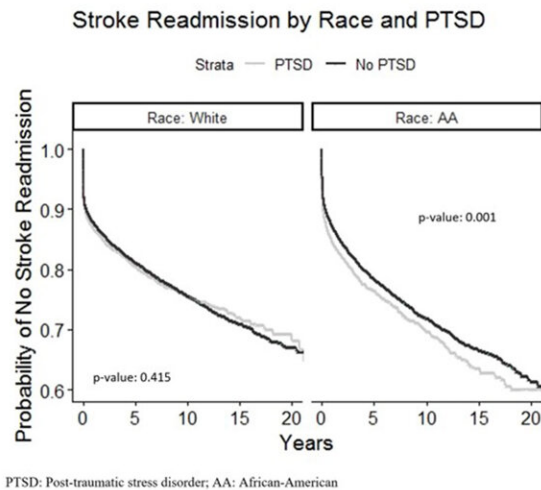
African American veterans with PTSD have higher risk of re-hospitalization after stroke, finds study

March 14 2024

Association of Post-Traumatic Stress Disorder and Race on Readmissions after Stroke



Our goal was to determine whether pre-existing post-traumatic stress disorder (PTSD) was associated with the risk of hospital readmission after stroke and if racial disparities existed.



Our fully-adjusted model for readmission found an interaction between African Americans (AA) and PTSD with a hazard ratio of 1.09 (95% CI 1.00-1.20; $p=0.047$). In stratified models, PTSD has a significant HR of 1.10 (1.02-1.18, $p=0.01$) for AA but not White veterans 1.05 (0.99-1.11, $p=0.10$).

Credit: *Stroke* (2024). DOI: 10.1161/STROKEAHA.123.044795

After a stroke, African American veterans previously diagnosed with

post-traumatic stress disorder (PTSD) were significantly more likely to be re-hospitalized than those without PTSD. PTSD did not raise the risk of post-stroke readmission in white veterans, according to research published in [Stroke](#).

"Our findings highlight the important things we can do to improve post-[stroke](#) care, such as focusing on high-risk populations, reducing modifiable risk factors, achieving stricter type 2 [diabetes control](#) and access for veterans who may need prescription medication treatment," said Chen Lin, M.D., M.B.A., senior author of the study, a staff neurologist at the Birmingham Veterans Administration (VA) Medical Center, and an associate professor of neurology at the University of Alabama at Birmingham.

PTSD is a mental health disorder that develops in some people who have experienced or witnessed a shocking, scary or dangerous event and leads to intense anxiety, flashbacks or other symptoms whenever events or situations trigger memories of the original trauma.

Previous studies have shown that people with PTSD have a higher risk of heart disease and stroke and they also develop stroke at younger ages than the general population. And while there have been other studies showing a higher risk of rehospitalization after stroke among Black adults this is the first study to analyze how PTSD affects outcomes after stroke, particularly the need for re-hospitalization.

"In those with PTSD, there are worse outcomes in general among African American veterans than white veterans. We looked at veterans with PTSD after they had a stroke. The main goal was to determine whether those with PTSD and stroke have different risks for stroke recurrence or hospital readmission, and also to see whether race affected

readmission rates," Lin said.

Using a Veterans Health Administration database, researchers analyzed African American and white veterans with stroke, comparing readmission rates in those with and without a PTSD diagnosis. Among the findings:

- African American veterans with PTSD had a 10% greater risk of readmission, which was considered significant compared to those without PTSD.
- White veterans with PTSD had a 5% greater risk of readmission than those without PTSD, which was not statistically significant.
- Type 2 diabetes or illicit drug use was significantly associated with a higher risk of re-hospitalization after stroke among African American veterans, while the same risk factors were not significantly associated with risk of re-hospitalization among white veterans.
- Congestive heart failure or high cholesterol were significantly associated with higher risk of re-hospitalization after stroke among white veterans, while these same risk factors were not significantly associated with re-hospitalization among African American veterans.
- High blood pressure, a previous heart attack and narrowing of arteries outside of the heart were risk factors that increased the risk of post-stroke readmission in both African American and white veterans.

"We were expecting to see PTSD playing a role in all veterans, so we were surprised at the difference between African American and white veterans in both the impact of PTSD and other risk factors," Lin said.

"In both the African American and white populations, there are important health conditions that can play a role in the risk of

readmission after a stroke. Post-discharge care after stroke is always a challenge—people find it hard to get to the clinic, especially if they have disabilities limiting their walking and driving ability. However, there is certainly a role for more targeted care focused on the [modifiable risk factors](#), such as Type 2 diabetes and [illicit drug use](#)," Lin said.

Study details:

- Researchers analyzed previous national data for 93,651 veterans (average age of 68.8 years; 97% male; 22.4% African American adults; 62.9% were white adults) hospitalized at any VA [medical center](#) in the U.S. for a first stroke of any type between 1999 and August 2022.
- Of those, 18% were readmitted to a VA hospital during an average follow-up period of five years.
- Almost 14% of stroke patients were also diagnosed with PTSD.
- Researchers considered several risk factors to better understand the [hospital readmission](#) data, including the presence of congestive heart failure, [high blood pressure](#), high cholesterol, narrowing of the arteries outside of the heart, type 2 diabetes, illicit drug or alcohol abuse, previous heart attack or a history of smoking.

The study is limited because it reviewed an administrative database of the Veterans Administration, so the findings may not be generalizable to civilians who may have PTSD for different reasons. The results may not be generalizable to female, Asian American or Native American veterans, who made up a very small percentage of the dataset of veterans with stroke in this study.

More information: Andrew L. Robison et al, Association of Posttraumatic Stress Disorder and Race on Readmissions After Stroke, *Stroke* (2024). [DOI: 10.1161/STROKEAHA.123.044795](https://doi.org/10.1161/STROKEAHA.123.044795)

Provided by American Heart Association

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