

Lower risk of death for Black Veterans with heart failure and pneumonia in VA system

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A study of Veterans hospitalized for common conditions in the Veterans Affairs (VA) healthcare system confirms that adjusted mortality rates are lower for Black compared to White Veterans—while also showing

higher adjusted mortality rates among Hispanic Veterans relative to White Veterans across most risk-adjustment models, reports the December issue of *Medical Care*.

The estimated magnitude of racial/[ethnic differences](#) are affected by adjustment for routine clinical factors, such as laboratory tests and vital signs, according to the new research by Gabriella C. Silva, Ph.D., of Brown University and colleagues. Meanwhile, the larger estimated [mortality](#) rates among Hispanic Veterans might be partially explained by a large proportion of the Hispanic cohort receiving care in a VA medical center outside the continental United States.

Routine clinical data may offer new insights on racial/ethnic disparities in VA patients

Using VA electronic databases, the researchers based their analyses on nearly 144,000 Veterans hospitalized for [heart](#) failure and 128,000 for [pneumonia](#). The patients were admitted to 132 VA medical centers from 2009 to 2015. In the VA and elsewhere, heart failure and pneumonia are two of the most common conditions leading to hospitalization. Nearly all US hospitals must publicly report mortality rates for these conditions.

Of the Veterans with heart failure, 70.5 percent were White, 26.5 percent were Black, and 3.0 percent Hispanic. Of those with pneumonia, 79.7 percent were White, 15.3 percent Black, and 4.9 percent Hispanic. For both conditions, Black and Hispanic Veterans were younger and significantly more likely to live in areas with greater neighborhood disadvantage than Whites.

For the heart failure cohort, unadjusted 30-day mortality rates were lower for Black Veterans compared to White Veterans, 4.1 percent versus 7.2 percent; but higher for Hispanic Veterans, 8.4 percent. Unadjusted 30-day mortality rates for pneumonia increased from 10.4

percent for Black Veterans, to 11.0 percent for White Veterans, to 16.9 percent for Hispanic Veterans.

Racial/ethnic differences in mortality remained after adjustment for factors like comorbidities based on administrative claims data and demographic variables like age and gender. A survival advantage for Black Veterans relative to White Veterans was identified in the heart failure and pneumonia cohort when this set of administrative variables was used. Previous studies using this set of risk-adjustment variables have identified this survival difference.

The magnitude of estimated racial/ethnic differences was impacted after further adjusting for routine clinical findings, such as laboratory tests and vital signs. Specifically, adjustment for clinical factors reduced the survival advantage for Black Veterans with heart failure while slightly increasing the survival disadvantage for Hispanic Veterans, relative to models that only included claims-based variables. For analyzes of Veterans with pneumonia, adjustment for clinical factors increased the survival advantage for Black patients and decreased the survival disadvantage for Hispanic patients.

However, the larger adjusted mortality rates identified for Hispanic Veterans, relative to White Veterans, were largely related to higher [mortality rates](#) at one VA medical center outside of the continental United States, which treated over 30 percent of the Hispanic patients with [heart failure](#) and 40 percent of those with pneumonia. On analysis of data from VA centers located in the US states, the risk of death was not significantly different for Hispanic compared to White Veterans.

"Our study therefore raises concerns that claims-based risk adjustment may bias estimates of racial differences in outcomes if comorbidities are less likely be identified and coded among minority patients," Dr. Silva and coauthors write. In contrast, objective clinical measures routinely

obtained in every patient may help to improve predictions of mortality, when added to standard models.

"Future studies examining racial/ethnic disparities should consider including clinical variables for risk-adjustment," Dr. Silva and colleagues conclude—highlighting the need for studies of other healthcare systems, other conditions, and other clinical outcomes. Within the VA, further research is needed to explore the mechanisms of the significantly higher mortality among Veterans located outside the continental United States.

More information: Gabriella C. Silva et al, Racial/Ethnic Differences in 30-Day Mortality for Heart Failure and Pneumonia in the Veterans Health Administration Using Claims-based, Clinical, and Social Risk-adjustment Variables, *Medical Care* (2021). [DOI: 10.1097/MLR.0000000000001650](https://doi.org/10.1097/MLR.0000000000001650)

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