

Socioeconomic status associated with likelihood of receiving a heart pump

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Patients who are African-American or Hispanic, uninsured or covered by Medicaid insurance and living in low-income ZIP codes are less likely to receive a heart-pumping device known as a left ventricular assist device (LVAD), according to preliminary research presented at the American Heart Association's Quality of Care and Outcomes Research Scientific Sessions 2019, a premier global exchange of the latest advances in quality of care and outcomes research in cardiovascular disease and stroke for researchers, healthcare professionals and policymakers.

Research has shown that there are disparities based on socioeconomic status associated with the types of care patients receive for heart disease and how well they do after treatment. The new study examined the relationship between [socioeconomic status](#) and implantation of LVADs, which are typically used to maintain patients waiting for a heart transplant or as the final therapy for patients with heart failure. Additionally, researchers set out to determine if Medicaid expansion through the Affordable Care Act, intended to improve access to insurance and healthcare for more people, has had any impact on LVAD implantation.

"There is a clear disparity in terms of access to advanced therapies like LVAD," said Xiaowen Wang, M.D., lead researcher and an instructor in medicine at Washington University in St. Louis. "Healthcare providers need to be mindful of this disparity as they make decisions about patient care."

The researchers used the federal government's State Inpatient Database, which contains all inpatient care records in participating states. They looked at data for all patients less than 85 years of age admitted with heart failure or [cardiogenic shock](#) in Alaska, Arizona, Colorado, Florida, Iowa, Maryland, Massachusetts, Michigan, Nebraska, Nevada, New Jersey, New York, Vermont, Washington and Wisconsin between January 1, 2012 and September 30, 2015.

Among 889,377 patients, 64.6 percent were more than 65 years old, 43.3 percent were women, and 64.2 percent were Caucasian. Overall, about 3,700 patients received LVADs. The researchers found that:

- African Americans were 28 percent less likely and Hispanics were 38 percent less likely to receive LVADs compared to Caucasians;
- Patients with Medicare were 28 percent less likely, those with Medicaid were 57 percent less likely and those without insurance were 90 percent less likely to receive LVADs compared to patients with private insurance; and
- Patients residing in the lowest-income ZIP codes were 26 percent less likely to receive LVADs than those in higher-income areas.

Among patients who received LVADs, African-Americans and Hispanics were less likely to die in the hospital compared to Caucasians. Privately insured patients who received LVADs had similar rates of death as those on Medicare, higher death rates than patients on Medicaid and lower death rates than those who were uninsured.

The researchers also compared rates of LVAD implantation for [patients](#) likely to be poor in states that expanded Medicaid with states that did not expand Medicaid during the 21-month study period. They found that the rate of LVAD implantation in Medicaid expansion states increased slightly from 0.35 percent before to 0.40 percent after expansion. In non-

expansion states, the LVAD implantation rate remained at 0.23 percent during the study period. The differences between these changes were not statistically significant.

Not all states participate in the State Inpatient Database, which limited the study, particularly for the analysis of LVAD implantation rates in Medicaid- and non-Medicaid-expansion states. Another limitation was the absence of data after 2015.

"As LVADs become more common with technological advances that lower complication rates and make the devices more portable, [healthcare providers](#) will need to better understand the underlying causes of these disparities in who gets these potentially lifesaving therapies and who doesn't," Wang said.

Provided by American Heart Association

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