

New study shows that social circumstances have outsized impact on hypertension control

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A research article published this month in the *Mayo Clinic Proceedings* highlights the significant impact of social determinants of health on patients' ability to sustain control of hypertension. This large clinical

trial, conducted at Ochsner Health, indicates the need for health systems and society to improve practices and better identify, measure, and address significant health barriers.

The primary goal of the clinical trial was to determine whether specific [social determinants](#) of [health](#) created an otherwise unseen barrier for those seeking [blood pressure control](#). Additionally, the trial sought to determine whether hypertension control was significantly different for the Black population as compared to white individuals.

"Social determinants are prevalent in the patients we manage with hypertension, and really anybody with chronic disease," said Richard Milani, M.D., Vice Chairman of Cardiology, Ochsner Health, and lead author of the article. "These identified barriers have a direct impact on our ability to control hypertension."

The trial utilized digital tools such as smart phones, a wireless blood pressure unit, and a digital management program for individuals who enrolled with elevated blood pressure. Participants received regular questionnaires assessing factors related to hypertension, including dietary sodium and alcohol consumption, depression, medication adherence, physical activity, and screening for obstructive sleep apnea. Researchers collected additional information that impacts chronic disease management, including patient activation, which measures an individual's willingness and ability to take independent actions to manage their health and care. The study also measured financial stress over the cost of their medications and health literacy. These measures were collectively called "health barriers."

"We have been studying disparities in health outcomes among Black populations in the United States for years. Historically, when compared to whites, Black individuals suffer poorer health outcomes related to heart disease, diabetes, cancer, maternal mortality, and infant mortality,"

said Eboni Price-Haywood, M.D., Medical Director, Ochsner Xavier Institute for Health Equity and Research. "Disparities in hypertension control is no different as Blacks have significantly lower rates of hypertension control compared to whites. However, what this study shows is that social determinants play a substantial role in an individual's ability to maintain healthy blood pressure rates, and it further solidifies the need for continued research in this area."

The study evaluated over 3,300 patients with uncontrolled blood pressure, and found that regardless of race, the presence of any of the three measured barriers significantly dampened blood pressure control. Individuals with poorly controlled hypertension and no barriers achieved 73% control rates at 1 year. The blood pressure control rate for individuals with one [barrier](#) decreased to 60%, while individuals with two or more barriers further decreased to 55%.

Blood pressure control remains a high priority nationally as it directly impacts the risk of cardiovascular disease and mortality among adults with hypertension. Moreover, data from the Centers for Disease Control and Prevention reveals that hypertension control rates are highest in white patients (55.7%) and lowest in Black patients (48.5%). This translates into higher death rates due to [hypertension](#) for Black patients. Some have concluded that this may be due to racial differences in the ability to achieve blood pressure control. However, as this study revealed, when two or more health barriers are indicated, differences in blood pressure control rates between Black patients and white individuals is eliminated, suggesting that social determinants, not race, more adversely impacts Blacks compared to whites.

"Social and economic disparities are really the primary driver of [blood pressure](#) control between both Black and white patients, and there is no inherent susceptibility based on race," said Dr. Milani.

As indicated in the article, additional research is needed to determine appropriate methods for identifying and mitigating these barriers to health.

More information: Richard V. Milani et al, Racial Differences and Social Determinants of Health in Achieving Hypertension Control, *Mayo Clinic Proceedings* (2022). [DOI: 10.1016/j.mayocp.2022.01.035](https://doi.org/10.1016/j.mayocp.2022.01.035)

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