

Historical redlining may be linked to current kidney failure

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New study shows that long-term disinvestment in health and wealth resources in historically redlined neighborhoods likely contributes to a disproportionate rate of kidney failure among Black adults today.

Living in a historically redlined neighborhood may increase residents' chances of experiencing [kidney failure](#) in the United States, particularly

for Black people, according to a new study led by Boston University School of Public Health.

Redlining, the discriminatory 1930's federal housing policy that discouraged mortgage lending in predominantly Black neighborhoods and led to neighborhood disinvestment, has been associated with current racial inequities in poor health outcomes. But no previous studies have explored the relationship between living in a redlined neighborhood and development of [kidney](#) failure.

Published in the *Journal of the American Society of Nephrology*, the study found that current-day cases of kidney failure were substantially higher in historically redlined neighborhoods, compared to other neighborhoods. The findings shed light on the long-term negative impacts of historical racist policies on Black families today, and the need to fill a persistent gap in access to health and wealth resources in these communities.

"Kidney failure disproportionately affects racial and ethnic minoritized populations, particularly Black individuals, and there is robust evidence linking neighborhood conditions to disparities in [kidney disease](#)," says study lead author Dr. Kevin Nguyen, assistant professor of health law, policy & management at BUSPH. "It is therefore possible that in present-day neighborhoods, historical redlining could create conditions such as exposure to pollution, [food insecurity](#), and worse healthcare, which have been shown to contribute to inequitable rates of kidney failure incidence."

For the study, Dr. Nguyen and colleagues utilized a national registry of nearly all US adults who received treatment for new kidney failure between 2012 and 2019 in 141 cities. They also examined digitized maps from the Home Owners' Loan Corporation (HOLC), the government-sponsored corporation that designed color-coded maps beginning in the

1930's to indicate which residential neighborhoods were safe to insure mortgages. Neighborhoods were assigned letter grades A ("best"—green), B ("still desirable"—blue), C ("definitely declining"—yellow), and D ("hazardous"—red; i.e. "redlined").

Compared to all adults in the study, Black adults had higher rates of kidney failure regardless of the neighborhood HOLC grade. But compared to Black adults in grade A neighborhoods, Black adults living in grade C and D neighborhoods had significantly higher rates of new cases of kidney failure.

New kidney failure was also higher among White, Hispanic/Latino, and Asian American adults living in areas with HOLC grades B-D, compared to adults living in grade A [neighborhoods](#).

All adults in these redlined areas were more likely to have chronic health conditions, and much less likely to receive pre-dialysis nephrology care or pursue home dialysis.

The researchers say their study lends implications for measuring and addressing structural racism.

"Our findings underscore the role of historical racist policies on contemporary neighborhood conditions," Dr. Nguyen says. "Advancing kidney health equity requires understanding that racial disparities in kidney disease are largely the product of structural causes that have systematically disadvantaged Black individuals compared with others and are rooted in historical racist policies such as redlining."

More information: Kevin H. Nguyen et al, Structural Racism, Historical Redlining, and Incidence of Kidney Failure in US Cities, 2012–2019, *Journal of the American Society of Nephrology* (2023). [DOI: 10.1681/ASN.0000000000000165](https://doi.org/10.1681/ASN.0000000000000165)

Provided by Boston University

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