

# Multi-Center Analysis of the Effects of Structural Racism on Health Disparities in Acute Myeloid Leukemia Outcomes

Led by the University of Illinois Cancer Center

## Research Highlights:

Structural racism assessed by census tract variables accounts for nearly all disparities in acute myeloid leukemia (AML) survival for Black or Hispanic patients.

- This multicenter discrete survival analysis is the first study to formally test mediators of the observed disparities in AML survival. Research on racial and socioeconomic differences in hematological cancers is limited. In this study, researchers operationalize analysis of structural racism using a composite variable incorporating racial segregation, disadvantage, and affluence at the census tract level.
- Data suggests structural racism accounts for outcome disparities more than tumor biology, comorbidities, healthcare access, and treatment modalities. Non-Hispanic Black (NHB) patients were less likely to receive a transplant and had a higher mortality rate. Hispanic patients had more healthcare access issues and treatment complications than the other groups.
- There is a need for interventions to reduce disparities for AML patients, particularly among racial and ethnic groups. Academic-community partnerships can bridge gaps in care, providing the best resources for patients across the transplant journey.

## Results at a Glance:

N=822 diagnosed with AML between January 2012 and January 2018 (median age=62 years old for entire cohort); N=126 NHB, N=117 Hispanic, N=497 Non-Hispanic White (NHW), N=92 other racial/ethnic groups

- **Patient characteristics:** NHW patients resided in more affluent census tracts and were more likely to have private insurance. NHB and Hispanic patients were more likely to live in more disadvantaged areas and less likely to have private insurance.
- **Disease Characteristics:** NHB patients had higher-risk molecular disease features such as TP53 mutations.
- **Treatment Patterns:** NHB patients were less likely than all groups to have a transplant (22% compared to NHW 47% and Hispanic 44%).
- **Outcomes:** NHB patients had the lowest 2-year overall survival rates (53%) and highest primary refractory disease rate compared to the other groups (20% NHB, 16% NHW, 12% Hispanic patients).

## Mediation analysis:

- Variables constituting structural racism (tract disadvantage, tract affluence, tract segregation) seemed to mediate almost all AML survival disparity in NHB (83%) and Hispanic (100%) compared to NHW patients.
- Tumor biology variables didn't appear to mediate disparities in leukemia death.
- Healthcare access accounted for 22% of the Hispanic-NHW disparity, but none of the disparity for other groups.

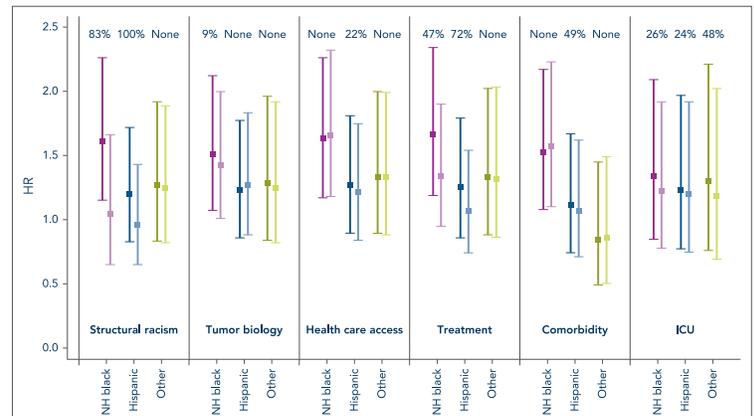


FIGURE 1. Hazard ratios of disparity in leukemia death before (solid bars) and after (faded bars) adjustment for mediating VARIABLES.

## Advancing Practice and Improving Access:

The National Marrow Donor Program<sup>SM</sup> (NMDP) alongside the CIBMTR (Center for International Blood and Marrow Research) is committed to expanding access to all patients needing HCT. The impact of structural racism can be lessened by taking a proactive approach. Engaged communication between community practices and transplant teams is a necessary first step toward collaboration in identifying barriers. In addition, developing interventions from a broad approach across the entire transplant journey can help:

- Expand measures of structural racism to examine their contribution to disease prognosis
- Utilize programs to limit access issues and barriers to transplant
- Foster policy changes to reduce socioeconomic limitations
- Bring awareness to more patients and communities

Read the published paper in *Blood*

## References

Full study citation: Abraham IE, Rauscher GH, Patel AA, et al. Structural racism is a mediator of disparities in acute myeloid leukemia outcomes. *Blood*. 2022;139(14):2212-2226. DOI: 10.1182/blood.2021012830