



Racial and Ethnic Disparities in Acute Myeloid Leukemia Survival

Following Multivariable Adjustment: A SEER Database Analysis (2000–2022)

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BACKGROUND & STUDY DESIGN

Why this question matters

- AML outcomes vary across racial and ethnic groups.
- Age at diagnosis differs substantially across groups and can distort unadjusted survival comparisons.
- Adjusted population-level data across major racial and ethnic groups remain limited.

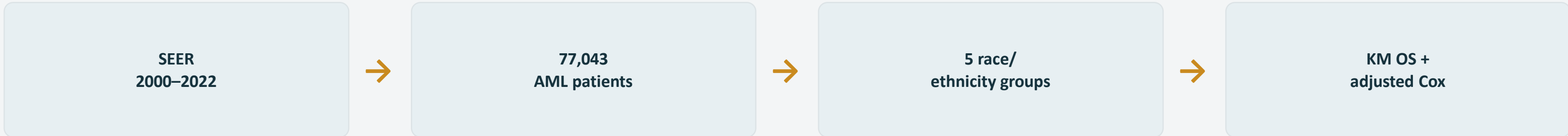
STUDY QUESTION

Do racial and ethnic disparities in AML survival persist after accounting for age and other clinical factors?

METHODS

- Retrospective population-based cohort using SEER (2000–2022).
- Race/ethnicity groups: NHW, NHB, Hispanic, NHAPI, and NHAIAN.
- Primary outcome: overall survival.
- Kaplan–Meier survival analysis and multivariable Cox proportional hazards regression.

Analytic flow



MODEL ADJUSTMENT

ADJUSTED FOR

Age • Sex • Treatment era • Radiation exposure

Reference group: non-Hispanic White (NHW)

Aim: distinguish apparent survival differences from disparities that persist after adjustment.

INTERPRETIVE LENS

Age changed the apparent story.

66 y

NHW mean age

57 y

NHB mean age

51 y

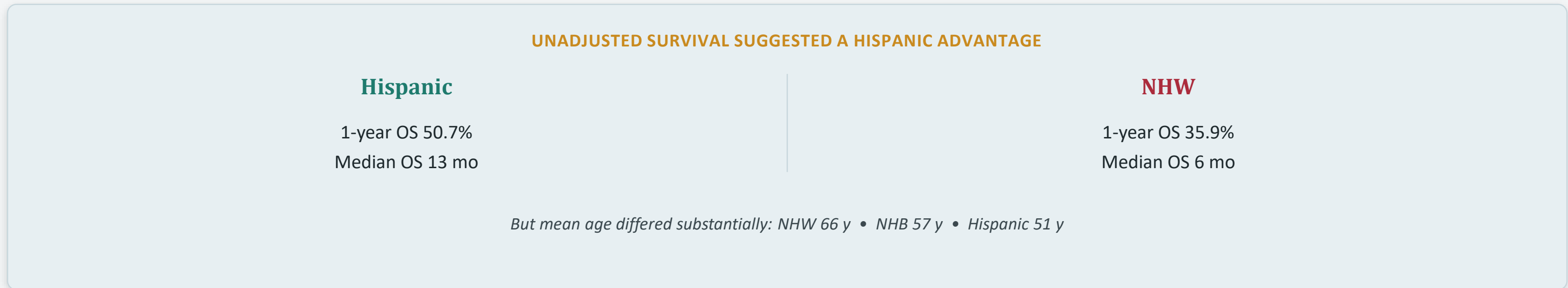
Hispanic mean age

A younger age distribution can make unadjusted survival appear more favorable, even when adjusted mortality is not lower.

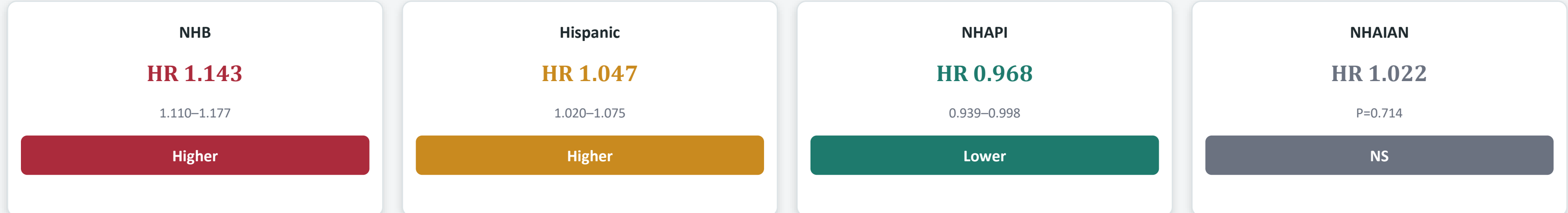
KEY INTERPRETATION

The apparent Hispanic survival advantage disappeared after multivariable adjustment.

RESULTS: THE APPARENT STORY CHANGED AFTER ADJUSTMENT

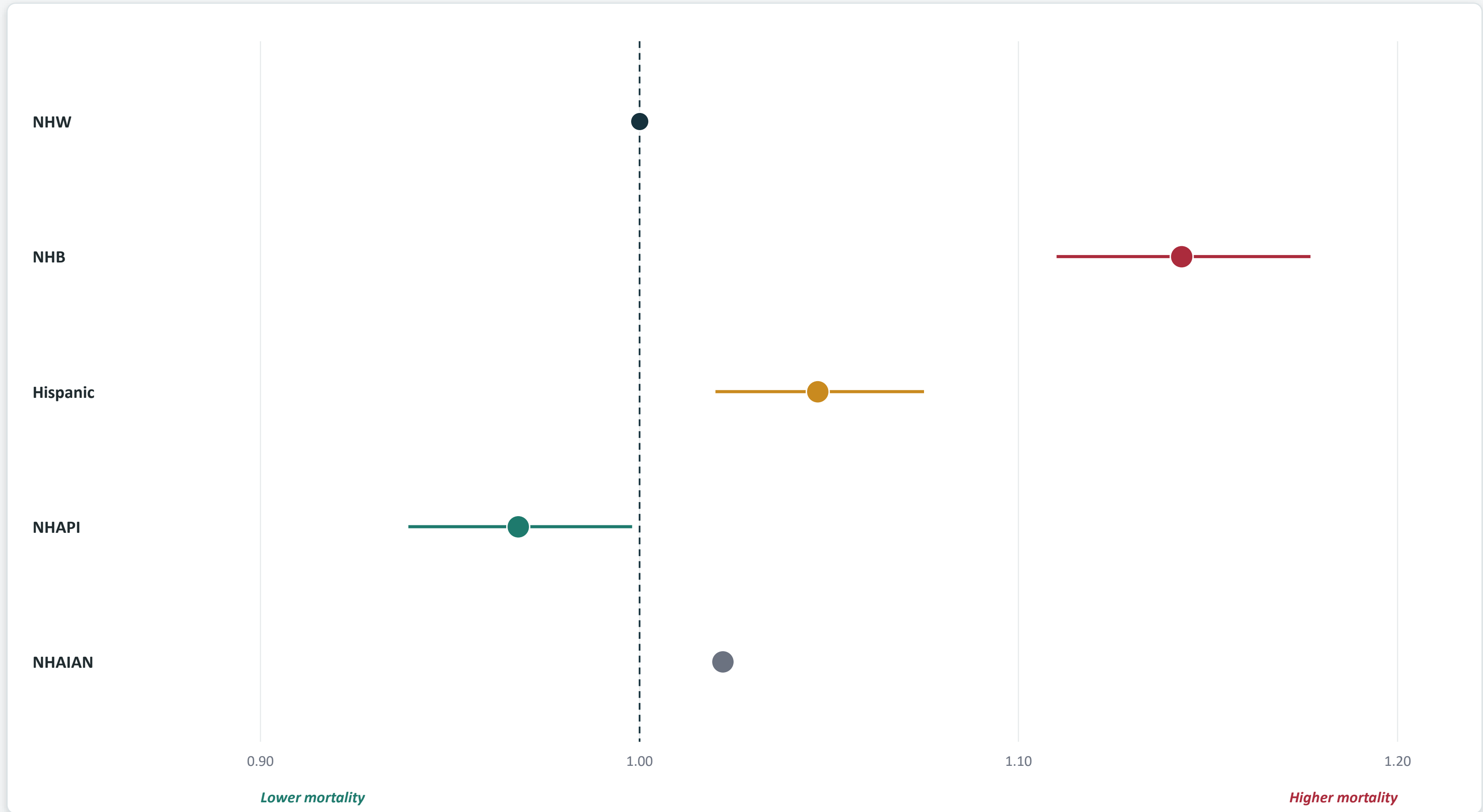


ADJUSTED MORTALITY VS NHW



ADJUSTED HAZARD OF MORTALITY

NHW = reference • Cox model adjusted for age, sex, treatment era, and radiation exposure



THE ADJUSTED STORY

NHB patients had the highest adjusted mortality burden.

Hispanic mortality was modestly higher after adjustment, while NHAPI patients retained a modest survival advantage.

NHAIAN patients had no significant difference; the source abstract did not report a 95% CI for this group.

DISCUSSION

- Age materially confounded crude racial/ethnic survival comparisons.
- NHB patients retained the highest mortality after multivariable adjustment.
- Persistent disparities suggest contributions from factors not captured in the current model.

CLINICAL / RESEARCH IMPLICATION

Persistent disparities after adjustment suggest that age alone does not explain differences in AML outcomes.

LIMITATIONS

- SEER lacks granular treatment-level and molecular data.
- Residual socioeconomic and access-related confounding may remain.
- Race/ethnicity is an imperfect proxy for structural and social determinants of health.
- Observed associations cannot establish causal mechanisms.

THREE TAKEAWAYS

- Age matters**
Unadjusted AML survival comparisons may be substantially confounded by differences in age at diagnosis.

- Disparity persists**
NHB patients had significantly higher adjusted mortality than NHW patients.

- Mechanisms remain**
SEER identifies associations but cannot determine causal drivers of disparities.

TAKE-HOME MESSAGE

Age at diagnosis substantially confounded apparent racial and ethnic differences in AML survival. After multivariable adjustment, NHB patients had the highest mortality burden, highlighting a persistent disparity that warrants investigation of treatment access, socioeconomic factors, disease biology, and other potential drivers.

Keywords: AML • Health disparities • Survival • Race/ethnicity • SEER

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