

Rural–Urban Disparities in Leukemia Mortality Trends Among Young Adults Aged 15–34, United States, 1999–2024

A CDC WONDER Analysis of Age-Adjusted Mortality

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Background

Leukemia remains a leading cause of cancer death among U.S. young adults aged 15–34 years. Despite major therapeutic advances, geographic and demographic differences may translate into unequal survival.

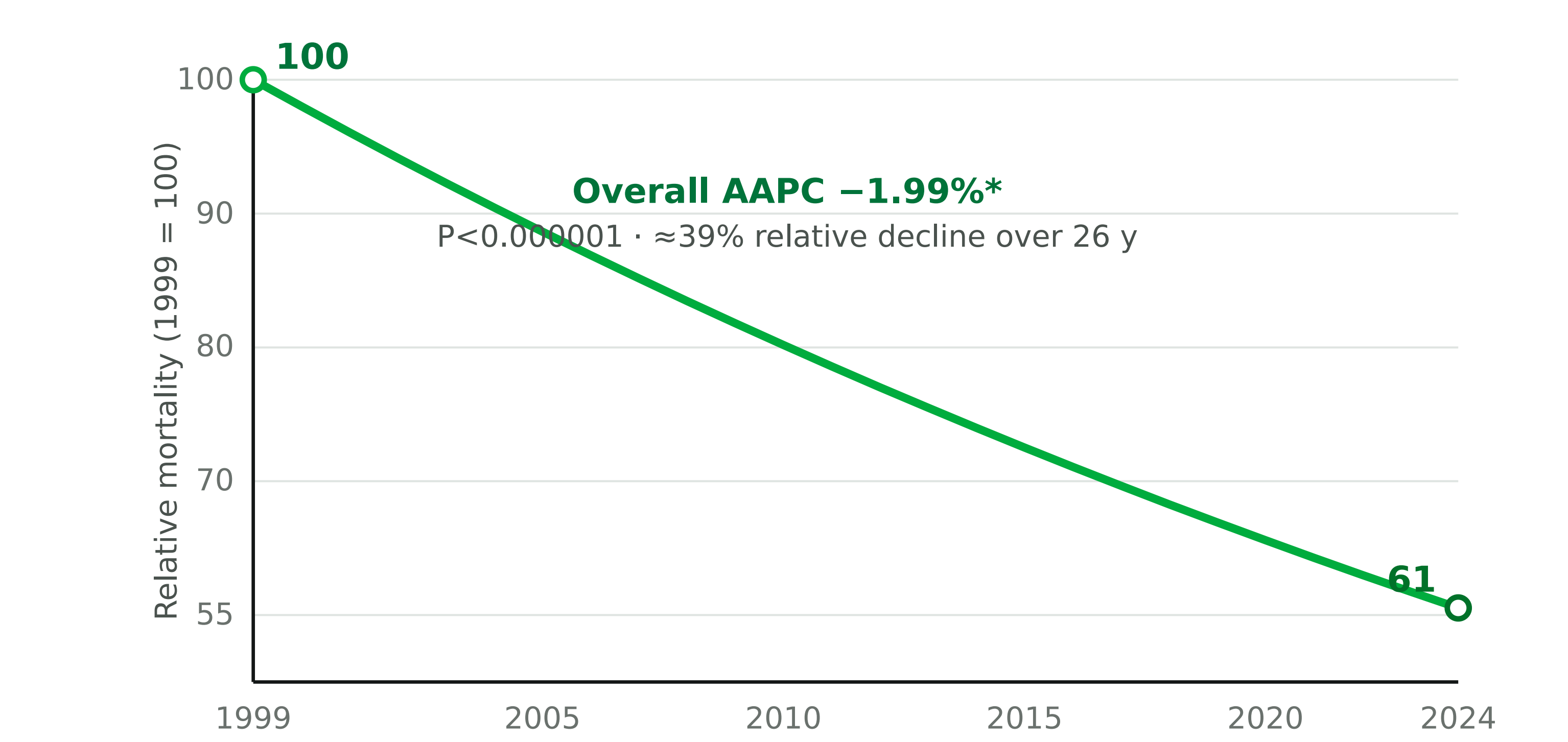
We characterized national mortality trends and disparities — by urbanization, region, race/ethnicity, and sex — to identify populations with the least improvement.

Methods

- ◆ **Source.** CDC WONDER mortality data, 1999–2024.
- ◆ **Population.** U.S. young adults aged 15–34 years.
- ◆ **Case definition.** Leukemia as cause of death (ICD-10 **C91–C94**).
- ◆ **Rates.** Age-adjusted mortality rates (AAMR) per 100,000, stratified by demographic and regional level.
- ◆ **Trends.** Joinpoint regression yielding APC and average APC (AAPC).

Overall trend, 1999–2024

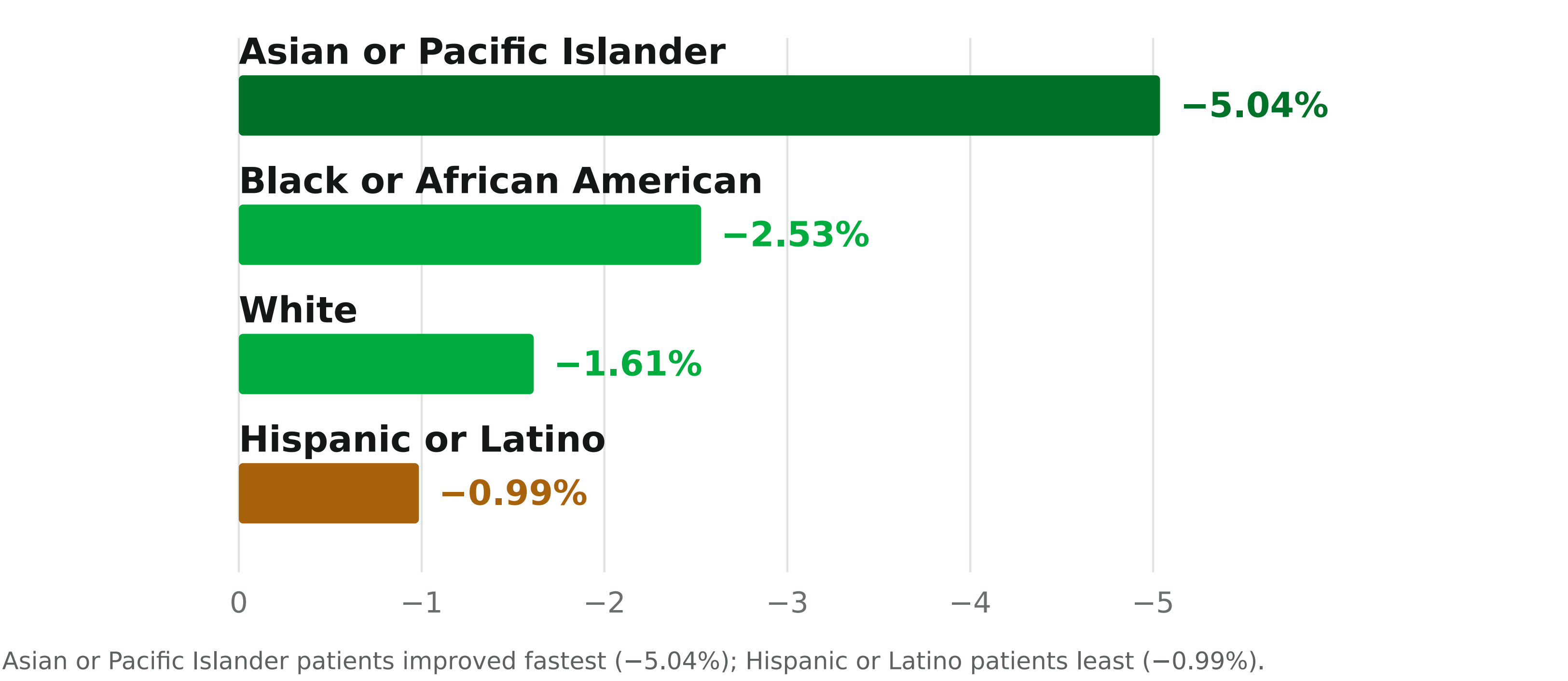
Relative leukemia mortality, indexed to 1999 = 100



*Joinpoint AAPC. Declines were near-identical by sex (females –1.79% vs males –1.72%). Index derived from the reported overall AAPC.

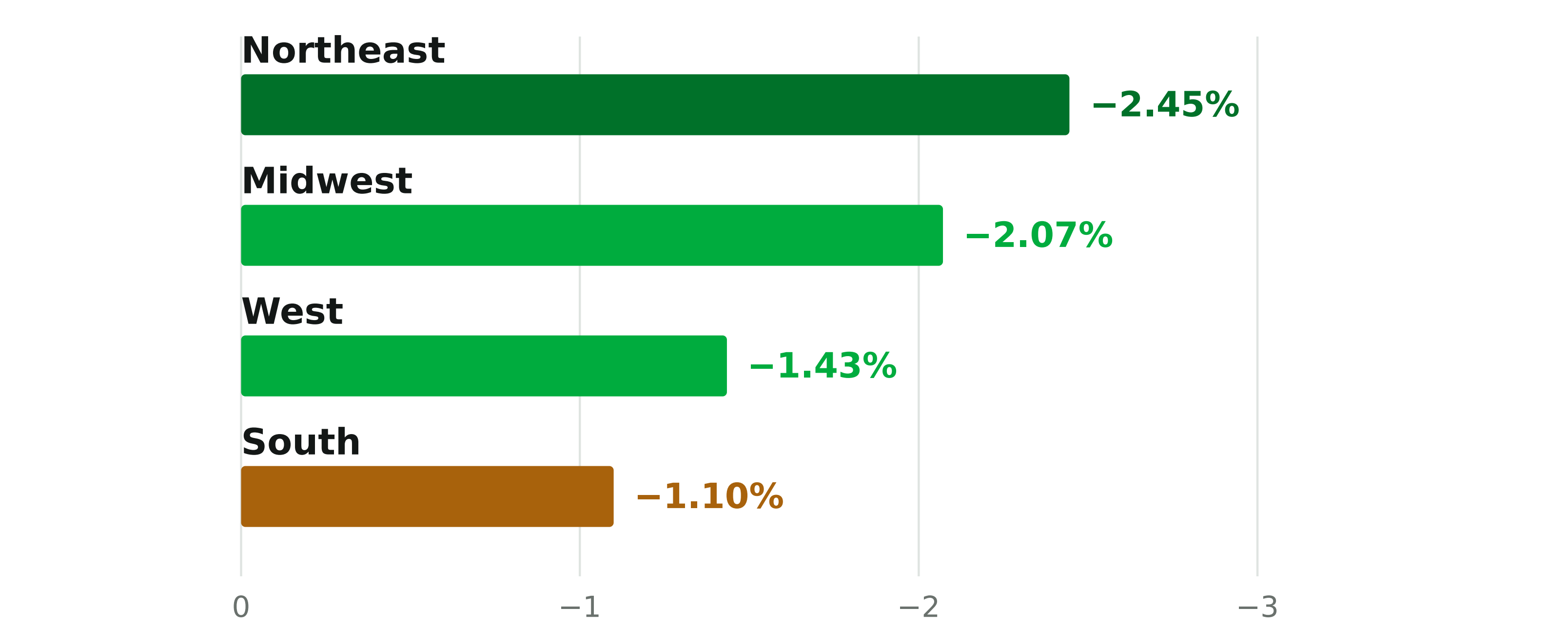
Decline by race & ethnicity

AAPC by race/ethnicity — a fourfold spread



Decline by census region

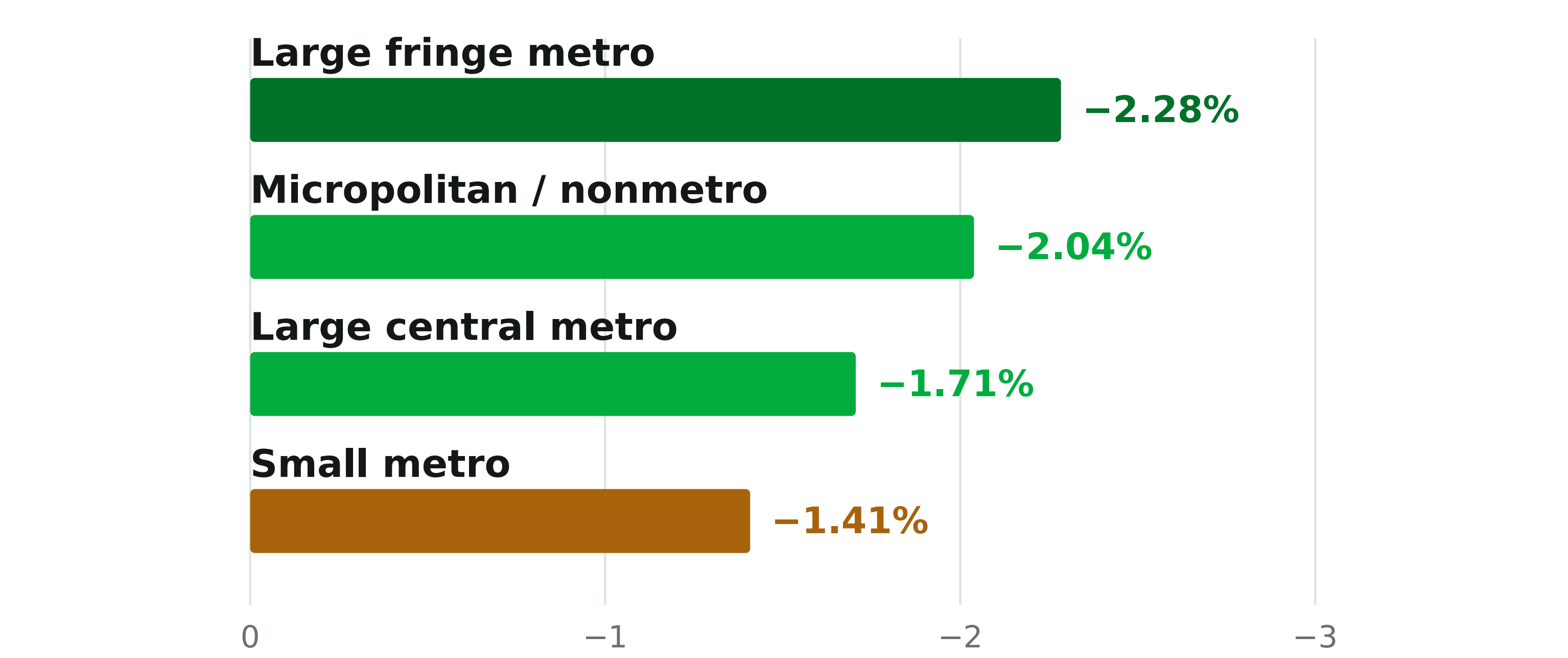
AAPC by region — Northeast fell fastest, South slowest



Northeast and Midwest outpaced the West and South; the South improved least.

Rural–urban disparity

AAPC by urbanization — the study's central finding



Large fringe (suburban) metro and micropolitan/nonmetro areas declined fastest; small metro areas lagged.

Conclusions

- ◆ Leukemia mortality in young adults fell significantly across all major groups from 1999 to 2024.
- ◆ Greatest declines: **female** and **Asian/Pacific Islander** patients, the **Northeast/Midwest**, and **suburban & nonmetro** areas.
- ◆ Least improvement: **male** and **Hispanic/Latino** patients, the **South**, and **large central metro** areas.
- ◆ Persistent geographic and demographic gaps call for targeted public-health efforts and resource allocation.