TRENDS IN MORTALITY FROM ACUTE MYELOID LEUKEMIA IN PATIENTS WITH MYELODYSPLASTIC SYNDROMES: A U.S. POPULATION-BASED ANALYSIS (1999–2023)

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Introduction

- Transformation of myelodysplastic syndromes (MDS) to acute myeloid leukemia (AML) carries high mortality.
- Despite therapeutic advances, long-term mortality trends in this population are poorly described.
- Tracking national mortality is essential to identify gaps in care, assess progress, and inform targeted interventions.

Aim

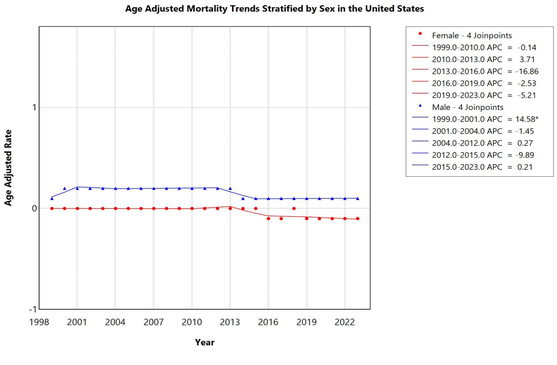
- To evaluate age-adjusted mortality trends from AML in patients with MDS in the U.S. (1999–2023).

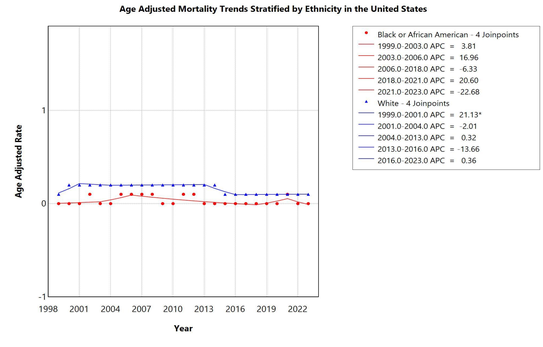
Objectives

- Assess AML mortality in MDS patients by sex, race, region, and urbanization.
- Determine annual percent changes (APCs) in mortality over time.

Methods

- Design: Population-based ecological time-trend study.
- Data source: CDC WONDER mortality database (1999–2023).
- Population: All U.S. deaths with AML + underlying MDS listed on death certificates.
- Outcomes: Age-adjusted mortality rate (AAMR) per 100,000; APCs from Joinpoint regression.



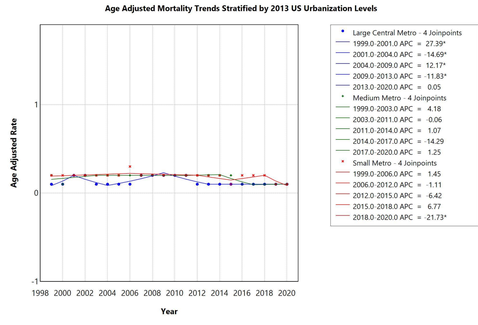


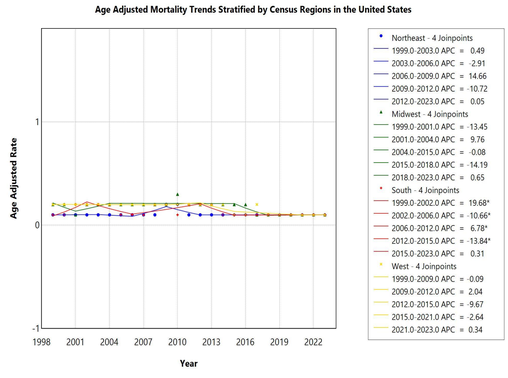
Summary

AML-related mortality in MDS patients has not declined from 1999–2023, underscoring the need to address disparities and improve access to care.

Results

- **Overall:** Mortality remained low but persistent across 25 years.
- **Sex:**
  - Males consistently had higher AAMRs than females.
  - Early rise in males (APC +14.6%, $p<0.05$), then stabilization.
- **Race:**
  - Whites: Early increase (APC +21.1%, $p<0.05$) → stable rates thereafter.
  - Blacks: Lower AAMRs but fluctuating, not significant.
- **Urbanization:**
  - Large metro areas showed early increases (APC +27.4% in 1999–2001; +12.2% in 2004–2009), then declines after 2013.
  - Other regions stable.
- **Geography:** Flat trends across Northeast, Midwest, South, and West.





Discussion

- No sustained decline in AML mortality among MDS patients over 25 years.
- Persistent disparities by sex, race, and urbanization highlight inequities in outcomes.
- These findings underscore the need for improved early detection, broader access to therapies, and strategies tailored to high-risk subgroups.

References

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- Arber DA, et al. The 2022 WHO classification of hematolymphoid tumors. *Blood.*

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