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Mortality From Multiple Myeloma & Leukemia With Coexisting Coagulation and Hemorrhagic Disorders, United States, 1999–2024

Temporal Trends & Demographic Disparities · A CDC WONDER Multiple-Cause Mortality Analysis

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25,951
Deaths — MM/leukemia (C90–C95) with coagulation/hemorrhagic disorders (D65–D69), 1999–2024

+2.23%
Overall APC, 2013–2024 — a significant reversal to rising mortality

+4.49%
Female APC after 2016 — the steepest-rising group

−1.05%
Black/African American AAPC — the only group with a net decline

Background

Multiple myeloma and leukemia are frequently complicated by **coagulation and hemorrhagic disorders**, which add substantially to morbidity and mortality. National trends in deaths from these coexisting conditions are not well described.

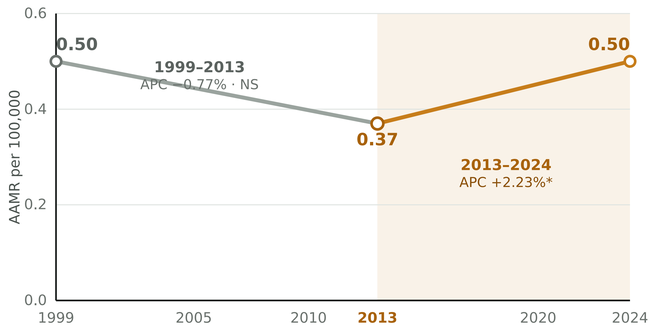
We assessed 26 years of U.S. multiple-cause mortality data for temporal trends and demographic disparities.

Methods

- **Design.** Retrospective cross-sectional, CDC WONDER Multiple Cause of Death, 1999–2024.
- **Case definition.** Underlying cause MM/leukemia (ICD-10 **C90–C95**) with coagulation/hemorrhagic disorders (**D65–D69**) as contributing causes.
- **Rates.** AAMR per 100,000, standardized to the 2000 U.S. Standard Population.
- **Trends.** Joinpoint regression for APC and AAPC with 95% CIs.

A U-shaped reversal after 2013

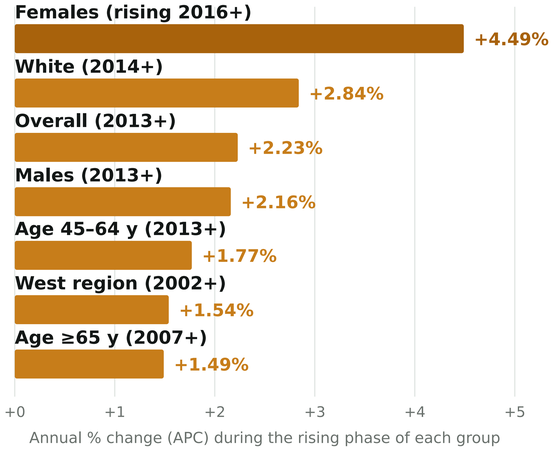
Overall AAMR, 1999–2024 — decline, then significant rise



*P<0.05. AAMR fell to a low of 0.37 in 2013, then climbed back to 0.50 by 2024. The 1999–2013 decline was not significant; the 2013–2024 rise (shaded) was.

Who is rising fastest

APC during each group's rising phase



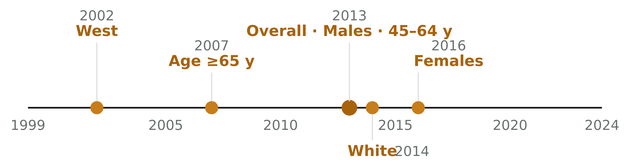
Women (after 2016) rose fastest, followed by White populations (after 2014). Contrast: Black/African American mortality declined overall (see left).

The countercurrent

Not every group rose. **Black/African American** mortality **declined** over the full period (AAPC −1.05%) — the only major group with a net decrease. Both metropolitan and nonmetropolitan areas fell early, then rebounded.

The rise began at different times

Joinpoint inflection year — when each group's mortality turned upward



The West turned upward first (2002) and older adults by 2007, but most groups inflected around 2013–2016.

Conclusions

- Mortality from MM/leukemia with coexisting coagulation and hemorrhagic disorders **rose significantly after 2013**, reversing an earlier decline.
- Disparities span sex, age, race, and region — with **women** and **White populations** rising fastest and the **West** turning upward earliest.
- The growing burden of coagulation-related complications calls for improved surveillance and targeted management in high-risk populations.