EVOLVING MORTALITY TRENDS IN MYELODYSPLASTIC SYNDROMES AMONG OLDER U.S. ADULTS: A 25-YEAR NATIONWIDE JOINPOINT ANALYSIS

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Introduction

Myelodysplastic syndromes (MDS) are clonal hematopoietic disorders with a rising prevalence in aging populations. Approximately 15% of cases occur after chemotherapy or radiotherapy for a previous cancer. The disease's complex etiology, variable progression, and a target population of elderly patients underlie a grim prognosis. While recent advances have modestly expanded treatment options, their real-world impact on population-level survival outcomes, particularly among older adults, remains unclear.

Aim

To analyze long-term trends in MDS-related mortality among U.S. adults aged ≥55 years over time and evaluate sex- and race-specific disparities.

Objectives

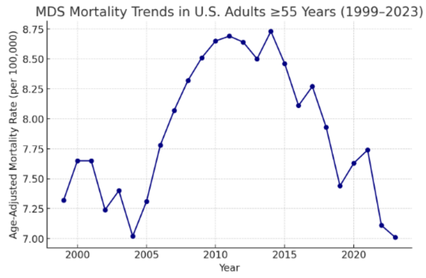
This study aimed to characterize temporal trends in MDS-related mortality among U.S. adults aged ≥55 years, with an emphasis on sex- and race-specific inequities

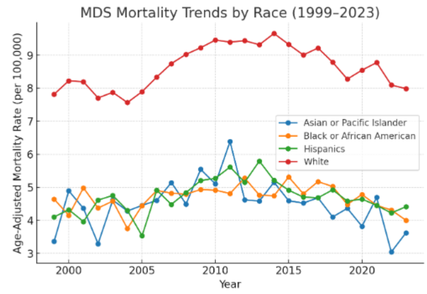
Methods

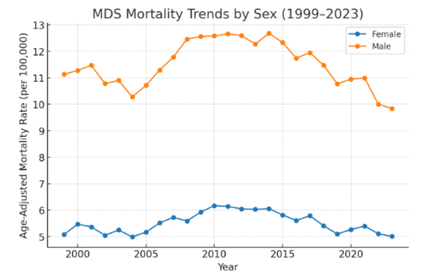
- The CDC WONDER database was queried using ICD-10 code D46 to obtain MDS-related age-adjusted mortality rates (AAMR) between 1999 and 2023.
- Trends were analyzed using Joinpoint regression to estimate annual percent change (APC) and average annual percent change (AAPC) with 95% confidence intervals (CI), stratified by year, race, sex, and states.

Results

- A total of 144,407 MDS-related deaths were recorded among older U.S. adults between 1999 and 2023.
- Following an initial period of decline till 2004, mortality increased until 2011 before continuing on a downturn.
- Males experienced two-fold higher mortality than females ($p<0.05$).
- The non-Hispanic (NH) White subgroup recorded the highest mortality, followed by the Hispanic, NH Black, and Asian subgroups.
- Despite modest declines in recent years following an uptrend between 2004 and 2011, the overall MDS mortality among NH White adults has remained largely stable over the 25 years, as evidenced by a non-significant AAPC of 0.03% ($p=0.94$).
- MDS-related mortality ranked above the 95th percentile in Maine, Nebraska, and West Virginia.







Summary

While overall mortality has declined modestly since 2011, the overall burden remains high, especially among non-Hispanic White males. The observed trend shifts suggest that while recent improvements in diagnosis and management, such as with hypomethylating agents, are beginning to reduce MDS-related mortality, interventions focused on early diagnosis and equitable access to new therapies are essential for bringing about a meaningful shift.

Discussion

1. Mortality from MDS has modestly declined since 2011, reflecting advances in therapy and supportive care.
2. Males and non-Hispanic White adults continue to bear the highest mortality burden, highlighting persistent disparities.
3. Regional variations suggest inequities in access to specialized care, underscoring the need for targeted interventions and early diagnosis.

References

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