

Trends and Disparities in Mortality due to Multiple Myeloma and Malignant Plasma Cell Neoplasms Coexisting with Malignant Neoplasms: A 26-Year CDC Wonder Analysis From 1999 – 2024

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INTRODUCTION

Multiple myeloma and malignant plasma cell neoplasms, coexisting with malignant neoplasms, are known causes of mortality and morbidity in the United States because malignant plasma cell neoplasms are often silent until late disease and cause widespread damage to multiple systems of the body. Despite such a burden, their concomitant trends remain understudied.

AIM

This study aims to elucidate the 26-year temporal trends of mortality between them from 1999 to 2024 in the United States.

METHODS

Mortality data were extracted for Multiple myeloma and malignant plasma cell neoplasm and malignant neoplasms from the CDC WONDER as multiple causes of death with ICD-10 codes C90 and C00-C97, respectively, from 1999 to 2024. The age-adjusted mortality rate (AAMR) per 100,000 persons, by sex, race, census, 2013 urbanization, state, and place of death, as well as the crude mortality rate (CMR) by age, were reported and analyzed using Joinpoint regression software to evaluate the annual percent change (APC) and average annual percent change (AAPC) and corresponding 95% confidence intervals (CIs).

CONCLUSION

The mortality rate due to Multiple myeloma and malignant plasma cell neoplasm, with coexisting malignant neoplasms, has, although declined tremendously over the past years across the US, still carries a significant risk for causing morbidity and mortality, which emphasizes the need for early detection and timely intervention to combat this threat effectively.

REFERENCES

Multiple Cause of Death Data on CDC WONDER [Internet]. [cited 2026 Mar 29]. Available from: <https://wonder.cdc.gov/mcd.html>

RESULTS

From 1999 to 2024, a total of 361,307 deaths were attributed to Multiple myeloma and malignant plasma cell neoplasms, coexisting with malignant neoplasms, with 37.81 % death reported in inpatient medical facilities. Over the study period, the AAMR declined from 7.07 to 5.19 with an AAPC of -1.35, CI: 95%, -2.05 to 0.64, p-value: 0.00019. Men have consistently higher AAMRs than women (7.93 vs 4.95), with Black or African American and adults aged 75 and above recording the highest AAMR (12.08) and CMR (37.04), respectively. Geographically, the metropolitan areas and Midwest regions recorded the highest AAMR of 6.33 and 6.47, respectively. Among states, the District of Columbia recorded the highest burden with 9.66 AAMR from 1999 to 2020, and 8.65 from 2021 to 2024.

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