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Temporal Trends in Mortality Due to Multiple Myeloma and Pneumonia in the US (1999–2020): Insights From CDC WONDER

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Introduction

The grave situation of combined multiple myeloma with pneumonia leads to rising mortality risks for elderly patients. The analysis spanned from 1999 through 2020 to identify population-based inequalities that demand targeted healthcare actions to manage rising inequalities.

Aim

To determine temporal trends and disparities in mortality among U.S. adults from multiple myeloma and pneumonia.

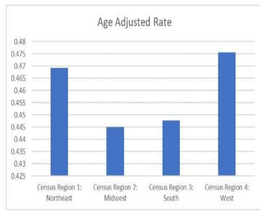
Methods

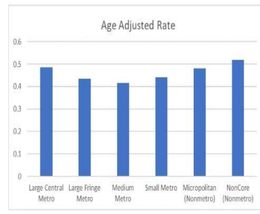
1. **Data and Population:** CDC WONDER database (1999–2020) for adults aged ≥ 25 years with multiple myeloma (ICD-10: C90.0) and pneumonia (ICD: J12-J18)
2. **Outcome Measure:** Age-adjusted mortality rates (AAMRs) per 100,000 population and Annual percent changes (APCs) estimated via Joinpoint regression **(1)**, stratified by demographic and geographic groups.
3. **Statistics:** 95% confidence intervals (CIs) were reported; statistical significance (*) was set at *P*<0.05.

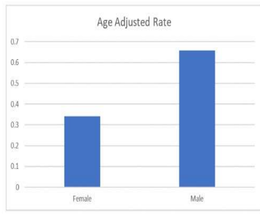
Results

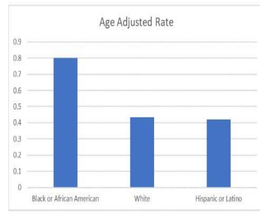
1. A total of 22,372 U.S. individuals died, with 17,824 deaths at medical facilities.
2. AAMRs declined 1999–2015, notably for women (APC -4.35*), NH Whites (APC -4.14*), the Northeast (APC -4.66*), and large fringe metro areas (APC -4.00*).
3. Increases in AAMRs occurred post-2015, for NH Blacks (APC 14.09*), the South (APC 10.66*), and large fringe metro areas (APC 4.57*).
4. In 2020, AAMRs were as follows: men, 0.67 (95% CI, 0.62–0.72); the Black population, 1.02 (95% CI, 0.90–1.14); the Midwest, 0.47 (95% CI, 0.42–0.53); and large central areas, 0.49 (95% CI, 0.44–0.55).
5. The District of Columbia had the highest state AAMR, 0.77 (95% CI, 0.59–0.98).

Graph









Conclusion

Multiple myeloma with pneumonia mortality declined until approximately 2015 but increased after 2015, with persistent disparities by sex, race, region, and urbanization. Higher AAMRs among men, the Black population, Midwest residents, large central metro areas, and the District of Columbia highlight the need for enhanced screening and treatment access **(2)**. Future research should investigate drivers of recent mortality increases to address these inequities effectively.

References

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2.Costa LJ, Brill IK, Omel J, Godby K, Kumar SK, Brown EE. Recent trends in multiple myeloma incidence and survival by age, race, and ethnicity in the United States. *Blood Adv*. 2017;1(4):282–287.

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