Temporal Trends in Septicemia Mortality Among Patients with Myeloid Leukemia in United States during 1999-2020: Insight from CDC WONDER Database

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Context

Septicemia remains a critical health crisis in the United States. Recent trends show increasing mortality among patients with leukemia.

Objectives

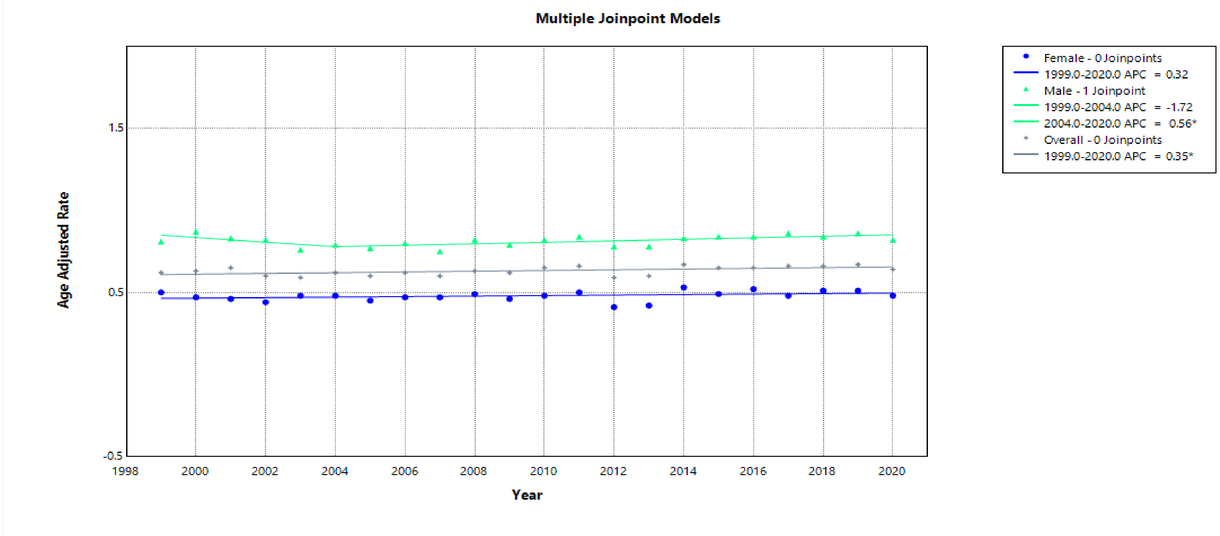
To examine national trends in Septicemia and leukemia mortality from 1999 to 2020 using CDC WONDER.

Methods

We accessed the CDC WONDER Multiple Cause of Death database and extracted age-adjusted mortality rates for Myeloid Leukemia and Septicemia deaths involving (ICD-10 codes C92, A40–A41) for individuals aged (+25). Data were stratified by Sex, Race, Census, Urbanization, State, Place of Death and Age groups. We conducted Jointpoint regression analysis to identify significant changes in mortality trends over time.

Results

From 1999 to 2020, a total of 29,928 Septicemia related deaths among patients with leukemia were reported. A mild increase was reported in AAMR (from 0.62 to 0.64) from 1999 to 2020 (APC: 0.35; p = 0.008). The AAMR increased steadily in females throughout the study period (APC: 0.32) but decreased in males throughout the period from 1999-2004 (APC: -1.71). However, from 2004 to 2020 in males an increase was observed (APC: 0.56). Upon stratification by census region, the highest AAMR was in the West, then in the Midwest (AAPC: 0.36), in the South (AAPC: 0.29), the lowest was in Northeast (AAPC: -0.81). The AAMR in rural areas remained higher than urban areas (AAMR from 0.61 to 0.63) throughout the study period. In urban areas the AAMR (0.62-0.65) was nearly constant (APC: 0.38). Upon race the highest AAMR was among Black or African American (2020 AAMR 0.65), followed by white (0.63), then Hispanic or Latino (0.52), lastly the lowest among Asian or Pacific Islander (0.45) Regarding the Age the highest AAMR was for those above 65 years (APC: 1.1), for those aged 45-64 (APC: -0.83) and for those aged 25-44 (APC: -0.45).



Conclusion

From 1999 to 2020, septicemia-related deaths in leukemia patients rose slightly among females and the elderly, with rural areas and the West most affected. White patients had the highest mortality; Asian/Pacific Islanders the lowest. Disparities highlight the need for targeted interventions for high-risk age, racial, regional, and rural groups.

Keywords

Septicemia; Leukemia; Mortality; Disparities; CDC WONDER

AAMR: Age-adjusted Mortality Rate, AAPC: Average Annual Percent Change, NH: Non-Hispanic