Mortality Trends Related to Sepsis in Adults with Non-Hodgkin Lymphoma: An Analysis of CDC Data from 1999 to 2020

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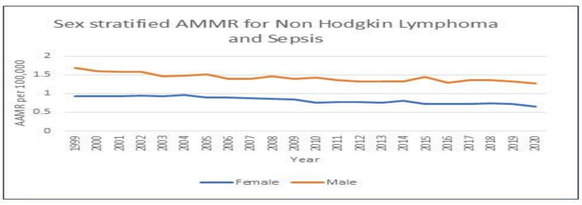
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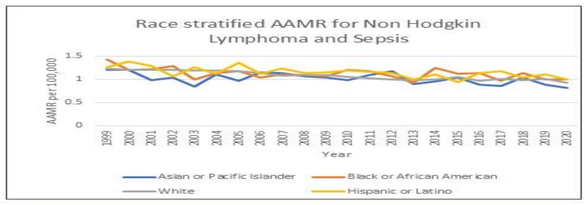
Introduction

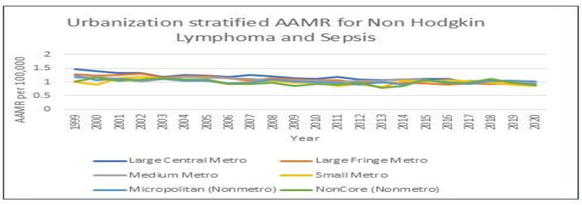
•Non-Hodgkin lymphoma (NHL) is a diverse group of lymphoid cancers, comprising ~4% of new cancer diagnoses in the U.S. as of 2024.
•NHL remains a major global hematologic malignancy with significant geographic variation in lifetime risk.
•Sepsis, a life-threatening response to infection, causes over 250,000 adult deaths annually in the U.S.
•NHL patients have a 32% higher risk of sepsis-related mortality due to disease- and treatment-induced immunosuppression.
•Despite this elevated risk, longitudinal data on sepsis mortality trends in NHL patients remain limited.

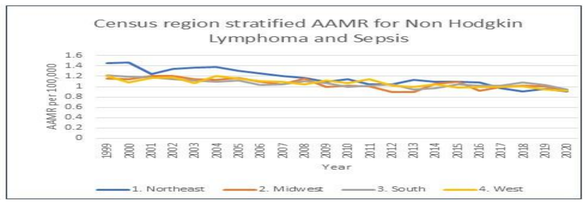
Results

•Sepsis-related mortality in NHL patients declined from 1.23 to 1.10 per 100,000 (APC = -1.21%, p<0.001).
•Males had higher rates, but females showed a steeper decline.
•The Northeast had the largest regional drop; the South showed a mid-period rise before declining.
•Fringe metro areas declined most; small metros had variable trends.
•Highest state-level rates in California and Texas; lowest in Arizona and Idaho.
•All racial/ethnic groups declined; White patients showed the steepest drop.
•Data for American Indian/Alaska Native populations were insufficient.









Methods

- CDC WONDER data (1999–2020) were analyzed for adults aged 25–85+ years.
- Deaths were identified using ICD-10 codes C82–C85 (NHL) and A40–A41 (sepsis)
- .Age-adjusted mortality rates (AAMRs) per 100,000 were extracted. . Data were stratified by sex, race/ethnicity, region, state, and urbanization.
- Trends were assessed using linear regression and Joinpoint analysis.
- Annual percentage change (APC) was calculated via Monte Carlo permutation.
- 95% confidence intervals were estimated and significance tested with two-tailed t-tests

Discussion

Sepsis-related mortality in NHL patients declined from 1999 to 2020, reflecting advances in therapy, early sepsis detection, and supportive care.
Males and Black patients had consistently higher mortality, indicating persistent sex- and race-based disparities.
The Northeast showed the steepest decline, highlighting regional differences in healthcare delivery.

References