TRENDS AND DISPARITIES IN NON-HODGKIN LYMPHOMA MORTALITY IN THE UNITED STATES, 1999–2021

LS. NG [1], WL. NG[2], A. HE[3], and E. FOX[4]
1. Indiana University Southwest Internal Medicine, Evansville, Indiana, USA
2. University of Pittsburgh Medical Center, Harrisburg, Pennsylvania, USA
3. Temple University, Philadelphia, Pennsylvania, USA
4. Ascension St. Vincent, Evansville, Indiana, USA

INDIANA UNIVERSITY

Introduction

- **Non-Hodgkin lymphoma (NHL) is one of the most common hematologic malignancies in the U.S.**
- **Ranks as the 6th leading cause of cancer-related death in the country.**
- **Mortality patterns may vary across sex, race, age, geography, and urbanization.**

Aim

- To examines temporal trends and sociodemographic disparities in NHL mortality in the USA adult population.

Objectives

- To assess changes in overall NHL mortality rates over time.
- To evaluate disparities in NHL mortality based on sex, race, age, and urbanization.

Methods

- This was a cross-sectional analysis using data from the CDC WONDER (Wide-Ranging Online Data for Epidemiologic Research) database.
- Included individuals aged ≥20 years with NHL listed as the underlying cause of death.
- The study period covered 1999 to 2021.
- Mortality rates were reported as age-adjusted mortality rates (AAMR) per 100,000 population using the U.S. standard population.
- Analyses were stratified by sex, race, age groups, and urbanization level.

Results

- Total NHL-related deaths: 457,143
- **Sex differences:**
  - 54% of deaths in men and 46% in women.
  - AAMR declined from 14.5 to 11.1 per 100,000 in men and from 9.6 to 6.8 in women
- **Age trends:**
  - In 2021, crude mortality increased with age, from 0.3 per 100,000 (age 20–24) to 77.1 per 100,000 (age ≥85).
- **Racial disparities:**
  - 1999: AAMR was highest in White individuals (12.1), followed by Black (7.8), Asian (7.2), and American Indian/Alaska Native (5.9).
  - 2021: AAMRs declined across all groups but remained highest in White individuals (8.6)
- **Urbanization level:**
  - Rural areas consistently had higher AAMRs throughout the study period.
  - In 2021, NonCore and Micropolitan areas showed the highest rates (17.7 per 100,000) compared to Large Central Metro areas (16.4 per 100,000).

Summary

- NHL mortality has significantly declined from 1999 to 2021.
- Disparities by sex, race, age, and geographic location persist.
- Mortality risk increases steadily with age, and White individuals consistently experienced the highest AAMRs.

Discussion

- The overall decline in mortality may reflect advances in NHL diagnosis, treatment, and supportive care.
- Persistent disparities may be attributed to differences in healthcare access, socioeconomic status, and geographic availability of cancer care services.
- Findings highlight the importance of equity-focused public health strategies to reduce gaps in NHL outcomes.
- Enhanced screening, outreach, and treatment resources are especially needed in rural and underserved populations.

Lay She Ng, MB BCh BAO
Internal Medicine Resident
Indiana University Southwest
Email: laysng@iu.edu

SOHO2025