FROM LYMPHOMA MORTALITY TO SURVIVORSHIP MORTALITY: CHANGING UNDERLYING CAUSES OF DEATH AMONG HODGKIN LYMPHOMA-ASSOCIATED DECEDENTS, 2003–2024

HCA MIDWEST HEALTH
CENTERPOINT MEDICAL CENTER

A. Khaliq MD[1]; Z. A. Suchal MBBS[2]; M.A. Soomro MD[3]; A. Varghese[4]; K. Agustino MD[5]; H. Soomro MD, MPH[6]; T. Burke MD[3]

[1]HCA Overland Park Regional Medical Center, Internal Medicine, Overland Park, KS, USA
[2]Shalamar Institute of Health Sciences, Lahore, Pakistan
[3]The Wright Center for Graduate Medical Education, Scranton, PA, USA
[4]Lake Erie College of Medicine, Elmira, NY, USA
[5]CHU de Bordeaux, Internal Medicine, Bordeaux, France
[6]Brown University of Health Sciences, Providence, RI, USA

BACKGROUND

- Hodgkin lymphoma (HL) is a highly curable malignancy, but long-term survivors remain at risk for late mortality from secondary cancers and non-malignant conditions.
- As outcomes have improved, death-certificate patterns among HL patients shifting from lymphoma-driven mortality toward survivorship-related causes.

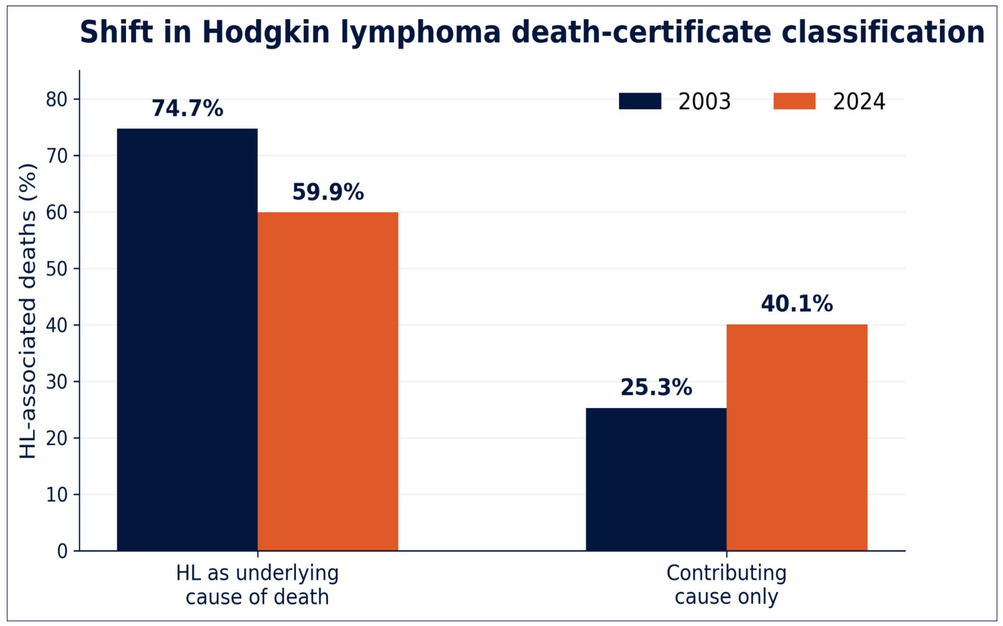
AIM

To characterize national death-certificate patterns among patients with Hodgkin lymphoma and assess the shift from HL as the primary underlying cause of death to HL as a contributing condition in the modern treatment era.

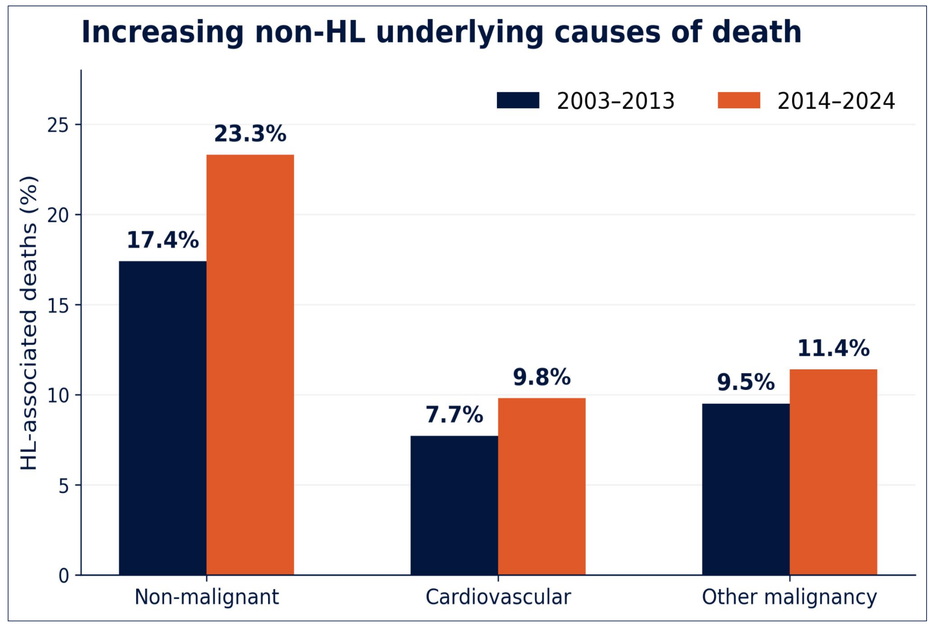
METHODS

- Analyzed NCHS Multiple Cause of Death public-use files, 2003–2024
- HL-associated deaths identified via ICD-10 code C81.x in the underlying (UCOD) or multiple-cause fields
- Primary outcome: HL as UCOD vs. multiple-cause-only contributing condition
- Non-HL underlying causes categorized
  - Other malignancy, cardiovascular/respiratory disease, infection, dementia, other non-malignant
- Trends assessed with binomial regression and piecewise models (knot at 2013)

RESULTS



35,906 HL-associated deaths were analyzed from 2003–2024
HL as UCOD declined from 74.7% to 59.9% (95% CI 0.964–0.971; $p = 1.74 \times 10^{-74}$)
Contributing-cause-only classification increased from 25.3% to 40.1%



Non-malignant, cardiovascular, and other-malignancy UCODs became more common (with the latter having 95% CI 1.013–1.023; $p = 2.83 \times 10^{-11}$)

CONCLUSION

- National mortality data show a sustained shift in HL death-certificate patterns, from HL as the underlying to a contributing cause of death.
- This transition from lymphoma-dominant to survivorship-associated mortality underscores the need for long-term surveillance of secondary cancers and non-malignant comorbidities among HL survivors.

ACKNOWLEGEMENTS
The authors appreciate the generous support of their affiliated institutions.

CONTACT
Aroog Khaliq MD (aroog.khaliq@hcamidwest.com)

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