Temporal Trends in Long-Term Survival and Cure Rates in Non-Hodgkin Lymphoma: A SEER Database Analysis

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Introduction

This study aims to assess long-term survival outcomes and to quantify population-level cure rates among individuals diagnosed with Non-Hodgkin Lymphoma (NHL) in the United States, utilizing the relative survival data provided by the SEER program across various diagnostic stages.

Background:

•Non-Hodgkin lymphoma (NHL) accounts for ~4% of all cancer diagnoses in the U.S.
•Estimated **80,620 new cases** and **20,140 deaths** projected for 2024.
•Over 40 subtypes exist; the most common are:
•Diffuse large B-cell lymphoma (DLBCL) – ~30% of cases.
•Chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL).
•Follicular lymphoma (FL).
•Subtypes vary in biology, morphology, and clinical behavior

Primary Objective

•Evaluate long-term survival outcomes in NHL.
•Estimate population-level cure rates by stage at diagnosis using SEER data.

Methods

•Data source: **SEER program**, 2000–2021.
•Patients categorized by stage: localized, regional, distant, unstaged.
•Relative survival curves were evaluated a 5-year and 10 years timeframe.
•**Statistical cure**: plateau in survival curve where excess mortality approximates general population.

Results

5-year survival rates:
Localized: 84.0%
Regional: 75.3%
Unstaged: 73.1%
Distant: 64.1%
10-year survival rates:
Localized: 78.5%
Regional: 67.1%
Unstaged: 61.7%
Distant: 52.5%
Plateau after year 6 in localized disease → suggests **potential cure**.
Ongoing survival decline in regional/distant disease → sustained disease impact.

Figure 1. Five-Year Relative Survival by Stage in NHL (SEER, 2000-2021)

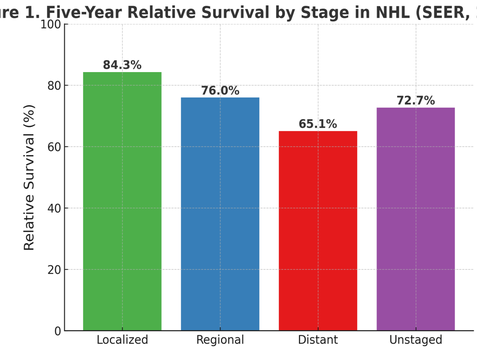
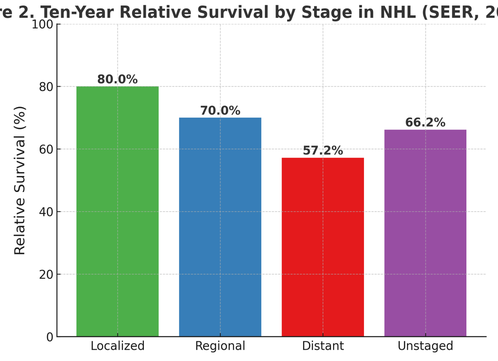


Figure 2. Ten-Year Relative Survival by Stage in NHL (SEER, 2000-2021)



Summary

SEER data show highest long-term survival in localized NHL, with advanced stages having markedly lower outcomes. Localized disease demonstrates a plateau consistent with potential cure.

Discussion

•Survival has improved over the last two decades, especially in localized disease.
•Potential remission or cure in a significant subset of localized cases.
•Advanced stages continue to show poorer outcomes, requiring tailored and intensive treatment.
•Emphasizes need for **timely diagnosis**, subtype-specific therapy, and continued surveillance.

References

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