National Cancer Institute

A Snapshot of

Lymphoma

Incidence and Mortality Rate Trends

Lymphoma, including Hodgkin lymphoma and non-Hodgkin lymphoma (NHL), represents approximately 5 percent of all cancers in the United States. Although Hodgkin lymphoma is the better-known form, the incidence of Hodgkin lymphoma is much lower than that of NHL.

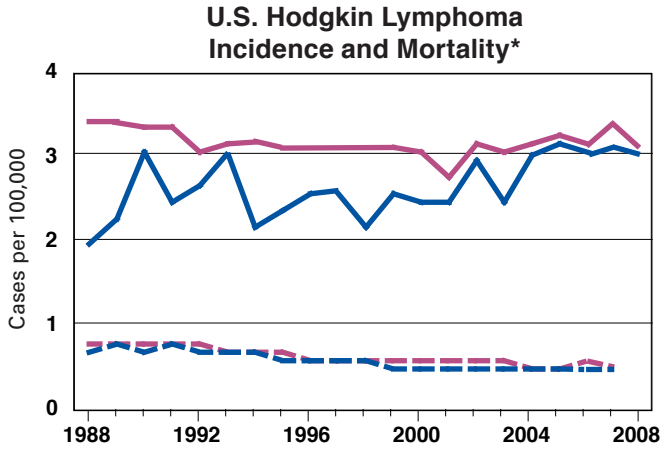
Due to improvements in the treatment of Hodgkin lymphoma, the mortality rate has decreased by nearly 50 percent over the past 25 years. Although the incidence rate for whites has remained relatively steady during this period, the rate for African Americans has increased.

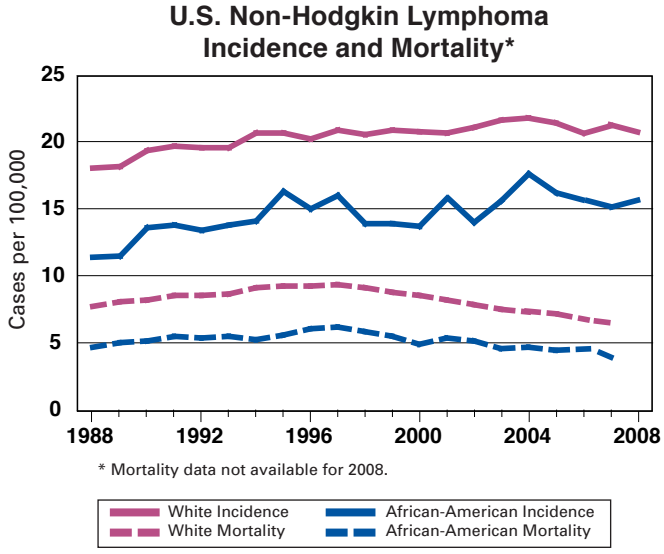
The NHL incidence rate has increased by nearly 20 percent in the past two decades, though the mortality rate has been declining since 2000. Incidence and mortality rates for NHL are higher for whites than for African Americans and people of other ethnic groups.

It is estimated that approximately $10.2 billion[1] is spent in the United States each year on lymphoma treatment.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at http://seer.cancer.gov/.

[1] Cancer Trends Progress Report (http://progressreport.cancer.gov), in 2006 dollars.





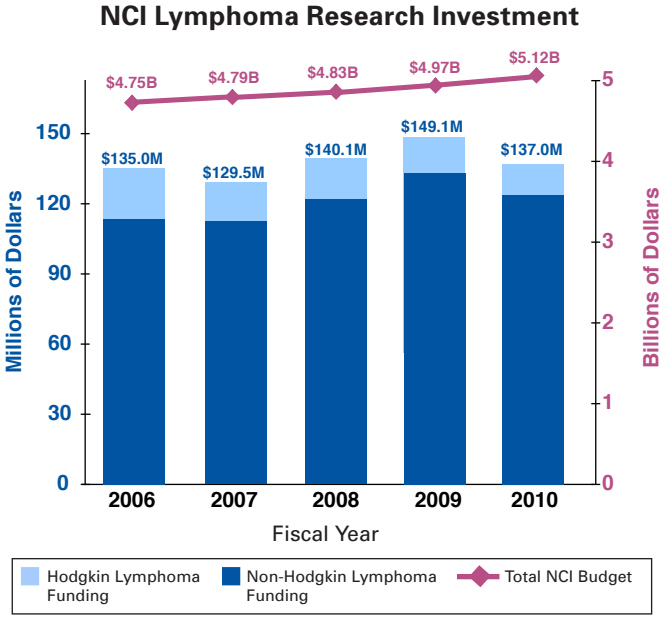
Trends in NCI Funding for Lymphoma Research

The National Cancer Institute's (NCI) investment[2] in lymphoma research increased from $135 million in fiscal year (FY) 2006 to $137 million in FY 2010. In addition, NCI supported $23.2 million in lymphoma research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).[3]

Source: NCI Office of Budget and Finance (http://obf.cancer.gov).

[2] The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see http://www.nih.gov/about/.

[3] For more information regarding ARRA funding at NCI, see http://www.cancer.gov/aboutnci/recovery/recoveryfunding.



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Examples of NCI Activities Relevant to Lymphoma

- The **Blood and Marrow Transplant Clinical Trials Network (BMT CTN)** conducts large multi-institutional clinical trials that address issues in hematopoietic stem cell transplantation to further understanding of the best treatment strategies. https://web.emmes.com/study/bmt2/ and http://ctep.cancer.gov/MajorInitiatives/Collaboration_with_NHLBI.htm

- The **Leukemia/Lymphoma Molecular Profiling Project** examines gene expression profiles of lymphoid malignancies to redefine their classification in molecular terms. Gene expression data will also be used to improve prognosis and select treatment options. http://llmpp.nih.gov/

- Members of the **International Lymphoma Epidemiology Consortium (InterLymph)**, an international group of epidemiologists researching the causes of NHL, share data and biological samples for the analysis of gene-environment interactions. http://epi.grants.cancer.gov/InterLymph/

- NCI's **Strategic Partnering to Evaluate Cancer Signatures (SPECS)** program explores how information from molecular studies can be used to improve the care and outcomes of cancer patients. One SPECS project is refining and validating diagnostic and prognostic molecular signatures for the major subclasses of NHL. http://dctd.cancer.gov/ProgramPages/cdp/major_initiatives_strategic_partnering.htm

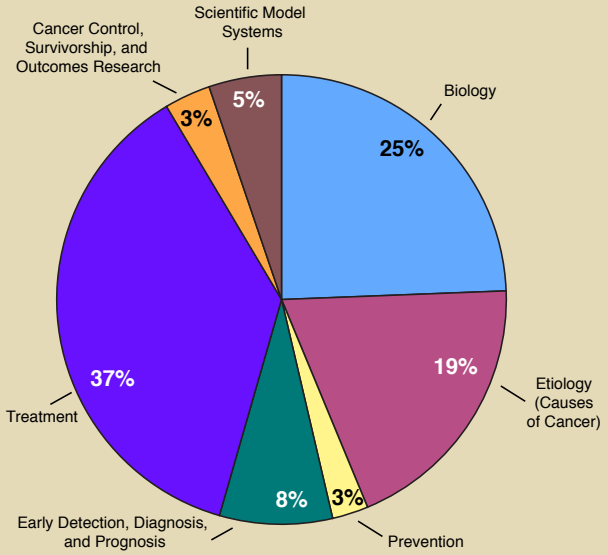
- The **Integrative Cancer Biology Program** combines experimental and clinical research with mathematical modeling to gain new insights into cancer biology, prevention, diagnostics, and treatment. http://icbp.nci.nih.gov/

- Four lymphoma-specific **Specialized Programs of Research Excellence (SPOREs)** are moving results from the laboratory to the clinical setting. SPORE researchers are evaluating novel lymphoma therapies (including immunotherapies), studying lymphoma biology and epidemiology, and identifying lymphoma biomarkers. http://trp.cancer.gov/spores/lymphoma.htm

- The **What You Need to Know About™ Hodgkin Lymphoma** and **What You Need to Know About™ Non-Hodgkin Lymphoma** booklets contain information about lymphoma diagnosis, staging, treatment, and follow-up care. Information specialists can also answer questions about cancer at 1-800-4-CANCER. http://www.cancer.gov/cancertopics/wyntk/hodgkin and http://www.cancer.gov/cancertopics/wyntk/non-hodgkin-lymphoma

- The **NCI Non-Hodgkin Lymphoma and Hodgkin Lymphoma Home Pages** direct visitors to up-to-date information on lymphoma treatment, prevention, genetics, causes, screening, testing, and other related topics. http://www.cancer.gov/cancertopics/types/non-hodgkin and http://www.cancer.gov/cancertopics/types/hodgkin

NCI Lymphoma Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2010

Data source: The NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio Web site at http://fundedresearch.cancer.gov

Selected Advances in Lymphoma Research

- The recent discovery of a **gene mutation that is common in a difficult-to-treat lymphoma subtype** may be of help in identifying patients who may benefit from targeted therapies for this form of lymphoma. http://www.cancer.gov/newscenter/pressreleases/2010/MYD88 and http://www.ncbi.nlm.nih.gov/pubmed/21179087

- Results of a large cohort study suggest that **chronic hepatitis B infection** may increase the risk of NHL. http://dceg.cancer.gov/newsletter/nov10/1110_scientifichighlights.shtml and http://www.ncbi.nlm.nih.gov/pubmed/20688564

- A genome-wide association study has identified a genetic locus that is associated with **susceptibility to follicular lymphoma**, a type of NHL. http://dceg.cancer.gov/newsletter/mar2011/0311_scientifichighlights.shtml and http://www.ncbi.nlm.nih.gov/pubmed/20639881

- Results of a large study confirm the association between **variants in two immune-system-related genes** and the risk of NHL. http://dceg.cancer.gov/newsletter/jul10/710_scientifichighlights.shtml and http://www.ncbi.nlm.nih.gov/pubmed/20047977