

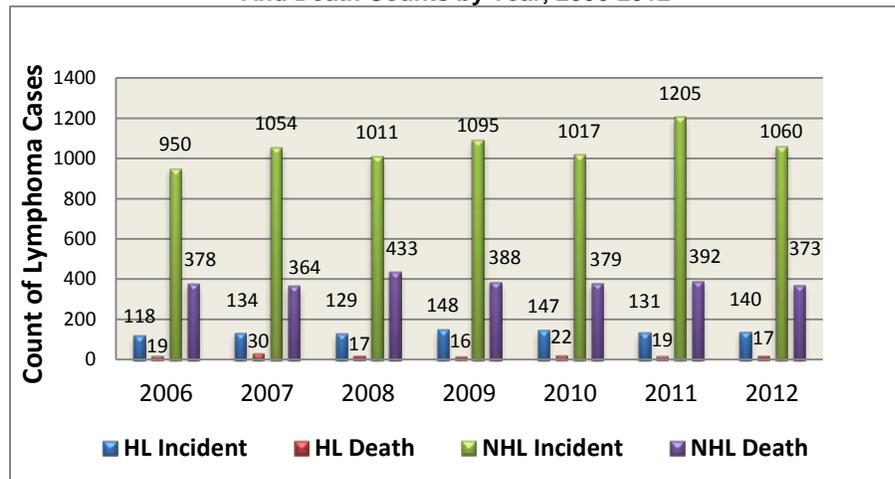
Lymphoma in Arizona

The term “Lymphoma” refers to a variety of cancers originating in lymphoid tissue. It usually is diagnosed as a systemic disease affecting the entire lymphatic system; rarely, it is isolated to a single location. There are many ways of classifying lymphomas. The category **Hodgkin lymphoma (HL)** is generally considered as a distinct condition, in part, because treatments now are so effective. The other major category of lymphoma is termed **non-Hodgkin lymphoma (NHL)**, which may be further divided and subdivided into several dozen cancers, each with its own risk factors, treatment plan, and anticipated rate of response. This fact sheet presents Arizona data for the two categories: HL and NHL.

HL comprises about 0.5 percent of all invasive cancers in Arizona, while NHL comprises around 3.9 percent of all invasive cancers in Arizona.

NHL describes a large group of cancers of lymphocytes (white blood cells). NHL can occur at any age and are often marked by enlarged lymph nodes, fever, and weight loss. There are many different types NHL. These types can be divided into aggressive (fast-growing) and indolent (slow-growing) types, and they can be formed from either B-cells or T-cells.

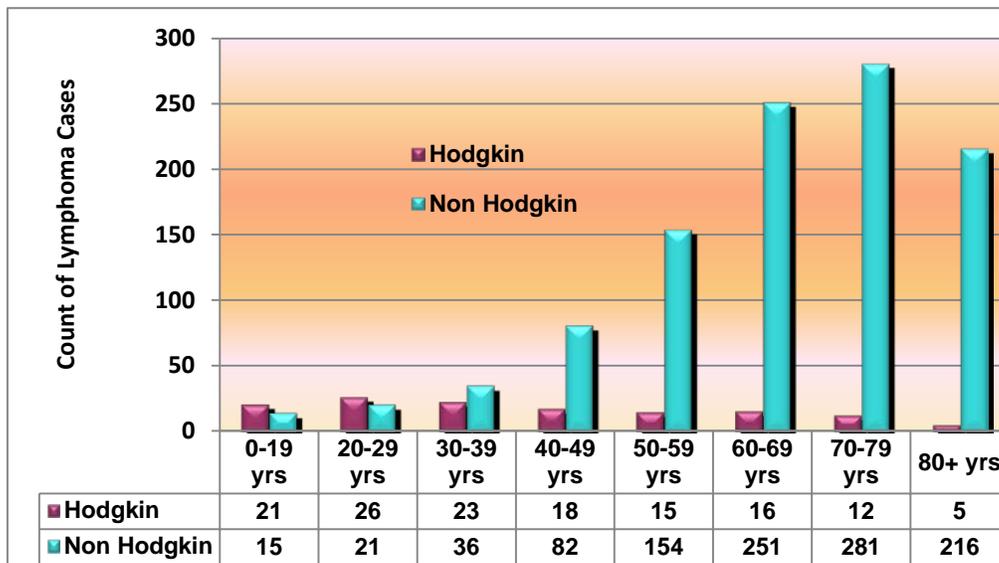
Figure 1. Arizona Lymphoma (HL & NHL) Incidence And Death Counts by Year, 2006-2012



Arizona Data

In the years 2006-2012, the Arizona Cancer Registry (ACR) received an average of 135 HL and 1,056 NHL newly diagnosed cases each year¹. In the same years, the average annual mortality from HL and NHL was 20 and 387 deaths respectively per year² (Figure 1).

Figure 2. Average Annual Count of Arizona Lymphoma (HL & NHL) By Age-Group, 2006-2012



The **median age** at diagnosis of HL is much younger (39 years old) than that of NHL (68 years) (Figure 2). Among all ages, HL is the 27th most common cancer, while NHL is the 9th most common in Arizona.

Gender: Approximately equal number of males (50.1%) and females (49.9%) are diagnosed with lymphoma

Race/Ethnicity: Eighty percent of the lymphoma cases occurred among White non-Hispanics, and twelve percent of the cases occurred among White Hispanics (Figure 3). The remaining groups (Black, American Indian, Asian/Pacific Islander) together accounted for 6 percent of the total cases.

The age-adjusted incidence rate among the race groups shows that White non-Hispanics have the highest incidence rate and Asian/Pacific Islanders have the lowest non-Hodgkin incidence rate (Figure 4). National U.S. data also shows that White non-Hispanics have the highest rates of all race/ethnicities.³

Figure 3. Distribution of Arizona Lymphoma (HL & NHL) Cases by Race/Ethnicity, 2006-2012

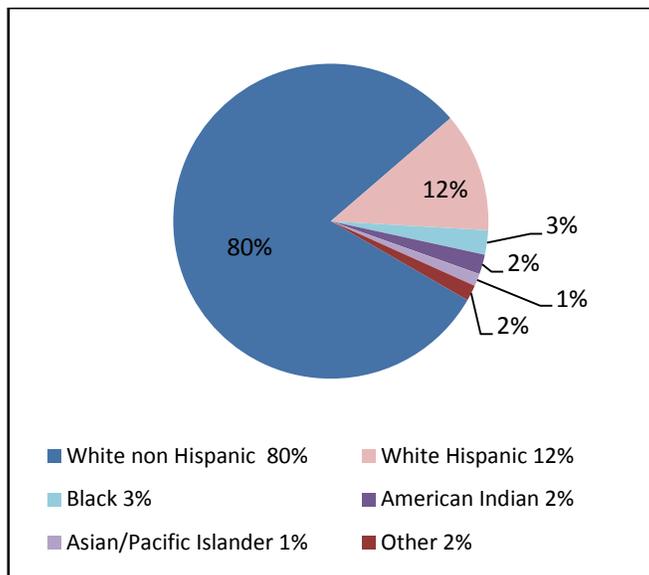
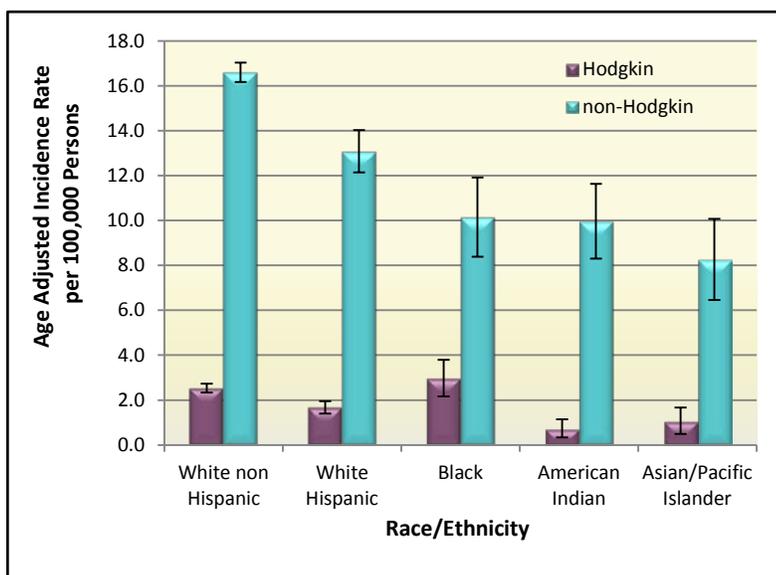


Figure 4. Incidence Rates of Arizona Lymphoma (HL & NHL) Cases By Race/Ethnicity, 2006-2012

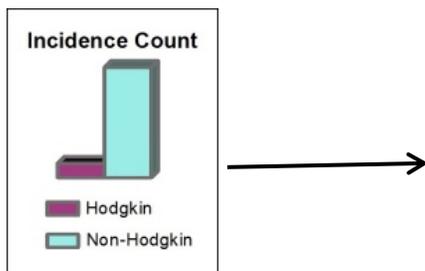
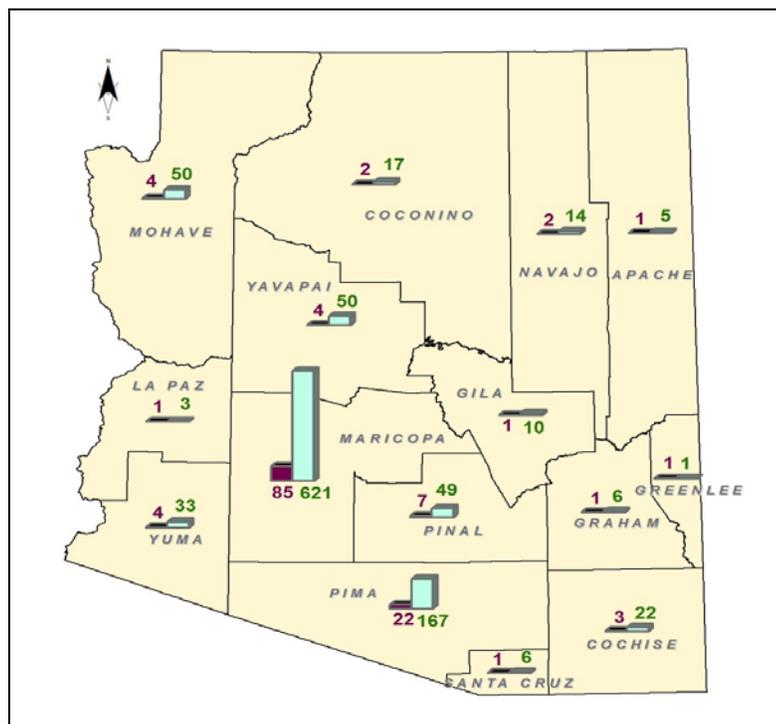


I = 95 percent confidence interval of the age adjusted rate.

Note: 8,339 Total HL & NHL cases

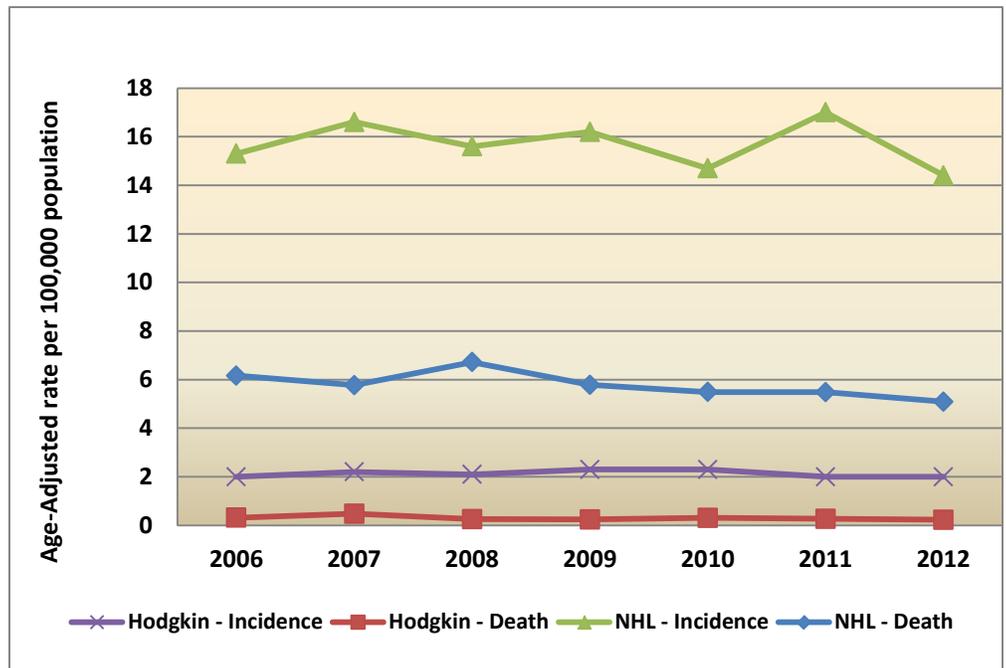
Average Annual Count of Arizona Lymphoma (HL & NHL) Cases By County*, 2006-2012

Geography: Lymphomas occur throughout the state (see Map). Not surprisingly, Maricopa County reports most of the state's cases because that is where most of the population lives. This trend continues for the next three most populous counties in Arizona. The 2012 population estimates were 3,884,700 for Maricopa County; 990,400 for Pima County; 389,200 for Pinal County; and 211,600 for Yavapai County. The population for the State of Arizona in 2012 was 6,498,600⁴.



* Due to rounding the average annual total number of HL cases by county is 4 more than the state average annual total. Rounding causes the total number of NHL cases to be 1 less than the state average annual total. There is an average of 1 case of NHL without a county of residence annually.

Figure 5. Incidence and Death Rates for Arizona Lymphoma (HL & NHL) by Year, 2006-2012



The incidence rate in Arizona remained relatively stable for HL. NHL age adjusted rates have been unstable during the period from 2006 to 2012. They registered their lowest rate in 2012 (Figure 5). On the other hand, the mortality rate for non-Hodgkin lymphoma has been decreasing while Hodgkin lymphoma rates have remained stable.

Prevalence Data (that is, the number of persons who have a history of the diagnosis) are not available for Arizona. However, U.S. data are helpful in understanding survivorship.

Prevalence of non-Hodgkin Lymphoma: On January 1, 2014, in the United States there were approximately 569,820 men and women alive who had a history of non-Hodgkin lymphoma – 297,820 men and 272,000 women. This includes any person alive on January 1, 2014 who had been diagnosed with non-Hodgkin lymphoma at any point prior to January 1, 2014 and includes persons with active disease and those who are cancer-free.⁵

Prevalence of Hodgkin Lymphoma: On January 1, 2014 there were approximately 197,850 men and women alive who had a history of Hodgkin lymphoma. This includes any person alive in 2014 who had been diagnosed with Hodgkin lymphoma at any point prior to 2014 and includes persons with active disease and those who are cancer-free⁵.

Survival Rates: For Hodgkin lymphoma, the overall Arizona resident 5-year relative survival rate for diagnosis years 2004-2010 was 81.4 percent. For Non-Hodgkin lymphoma, the overall 5-year relative survival rate for 2004-2010 was 60.5 percent.

Incidence in Children: Using the International Classification of Childhood Cancer (ICCC)⁶, lymphoma (HL, 6.7 percent of all cancers in children less than 20 years of age, and NHL, 6.1 percent) is the third most common cancer in Arizona's children, following leukemia (28.8 percent) and neoplasms of the brain and other nervous tissue (17.6 percent). In children younger than 20 years of age, lymphoma is most commonly diagnosed in White non-Hispanics (30 new cases per million children), followed by African-American children (22 per million) and White Hispanics (14 per million).

¹ All incidence data was retrieved from the ACR database on January 21, 2015.

² Bureau of Public Health Statistics, Arizona Department of Health. Mortality Data Set. Retrieved February 26, 2015

³ United States Cancer Statistics: 1999 - 2011 Incidence, WONDER Online Database. United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2014. Accessed at <http://wonder.cdc.gov/cancer-v2011.html> on Apr 23, 2015

⁴ Arizona Department of Administration, Office of Employment & Population Statistics. Pop-prj-04all-12-50-medium-series.xlsx. 12/07/2012.

⁵ American Cancer Society. Cancer Treatment and Survivorship Facts & Figures 2014-2015. Atlanta: American Cancer Society; 2014, <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-042801.pdf>. Retrieved February 26, 2015.

⁶ The ICCC is a childhood cancer classification system that emphasizes morphology rather than primary sites. ICCC looks at incidence of all lymphomas regardless of what primary site it occurred.

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