

## Chapter 16

# Non-Hodgkin's Lymphoma



## Non-Hodgkin's Lymphoma

### Incidence and Mortality by Sex and Year

#### West Virginia Residents 1993 – 2001

Year	Male				Female				Total			
	New Cases	Incid. Rate	Deaths	Mort. Rate	New Cases	Incid. Rate	Deaths	Mort. Rate	New Cases	Incid. Rate	Deaths	Mort. Rate
1993	157	18.7	85	10.2	155	13.4	86	7.0	312	15.6	171	8.5
1994	155	17.9	87	10.3	162	13.8	78	6.5	317	15.7	165	8.1
1995	184	21.3	75	8.5	178	15.2	93	7.7	362	17.7	168	8.2
1996	182	20.7	92	10.7	191	16.2	86	7.0	373	18.1	178	8.5
1997	166	19.0	107	12.6	197	16.6	97	7.8	363	17.6	204	9.8
1998	206	23.0	102	11.6	201	17.3	87	7.1	407	19.7	189	9.1
1999	203	22.6	81	9.2	205	17.4	79	6.3	408	19.5	160	7.6
2000	169	19.0	69	7.8	187	15.8	92	7.5	356	17.0	161	7.7
2001	203	21.8	86	9.7	174	14.5	85	6.8	377	17.7	171	8.0

Rates are per 100,000 West Virginia residents and are age-adjusted to the 2000 U.S. standard population.

**Table 16.1**

### Overview

- Although non-Hodgkin's lymphoma occurred in all age groups, incidence increased with age. The highest age-specific incidence rate (83.6 per 100,000) occurred in the 65-and-older age group (Figure 16.3).
- Twenty-nine percent (29%) of all non-Hodgkin's lymphomas were diagnosed with local disease. Fourteen percent (14%) had regional and 41% distant disease. Stage was not reported in 16% of cases (Figure 16.4).
- Each year from 1993 through 2001, incidence in West Virginia males was higher than that in females (Figure 16.1).
- According to 1996-2000 SEER data, West Virginia mortality rates for non-Hodgkin's lymphoma were not significantly different from U.S. rates (Appendix B).

### Risk Factors

- Risk factors for non-Hodgkin's lymphomas are largely unknown.
- Individuals with reduced immune function such as organ transplant recipients, individuals with primary immunodeficiencies, or those with AIDS are at increased risk of disease.
- Exposure to human T-cell leukemia/lymphoma virus (HTLV-1) increases risk.
- Exposure to herbicides, industrial solvents, radiation, or vinyl chloride may possibly be a risk factor for this disease.
- Infection with *Helicobacter pylori* may also be a risk factor for non-Hodgkin's lymphoma of the stomach.

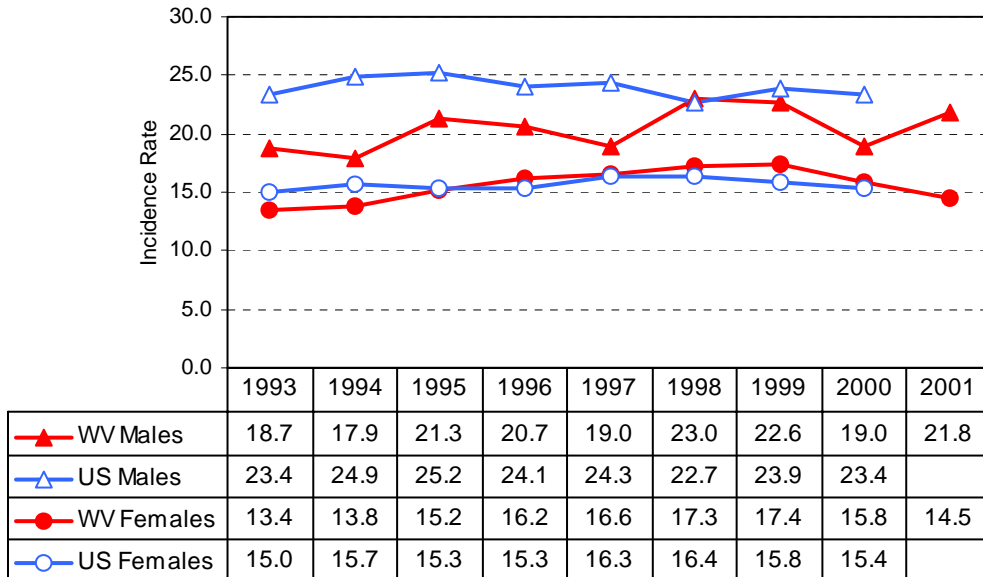
### Prevention

- Few effective prevention or early detection methods are currently available. The most preventable cause of non-Hodgkin's lymphoma is infection with HIV.

## Non-Hodgkin's Lymphoma

### Incidence Rates\*, Age-Adjusted

West Virginia Residents 1993 – 2001, U.S. Residents 1993 – 2000



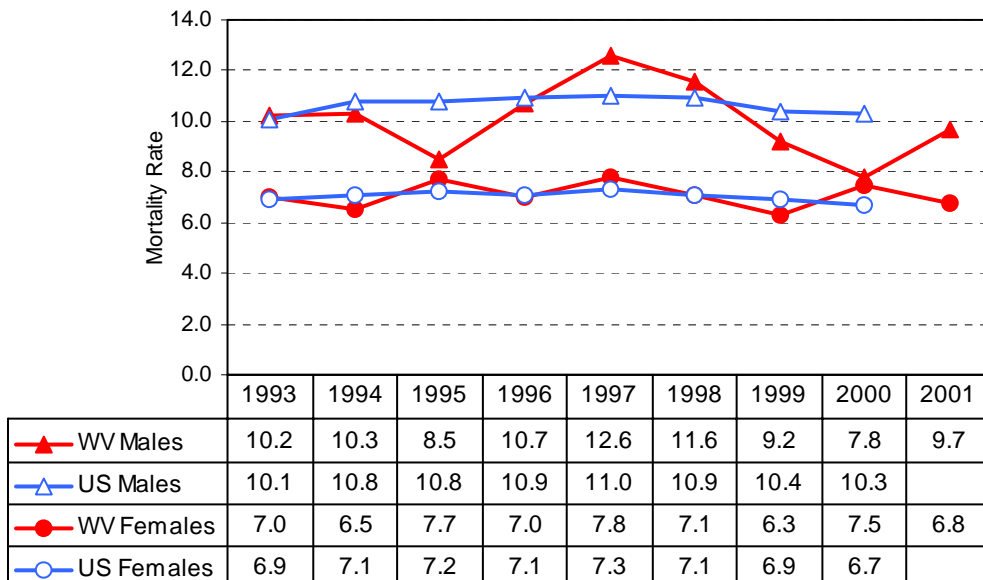
**Figure 16.1**

\*Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.  
U.S. rates are from SEER (Ries et al., 2003).

## Non-Hodgkin's Lymphoma

### Mortality Rates\*, Age-Adjusted

West Virginia Residents 1993 – 2001, U.S. Residents 1993 – 2000

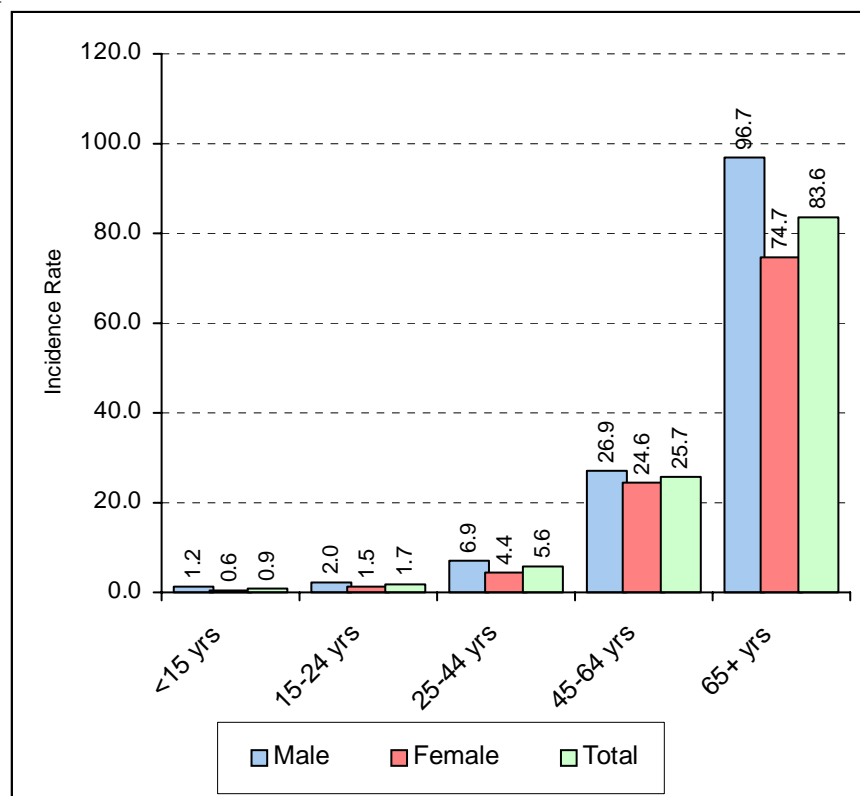


**Figure 16.2**

\*Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.  
U.S. rates are from SEER (Ries et al., 2003).

## Non-Hodgkin's Lymphoma

Incidence Rates\*, Age-Specific  
West Virginia Residents 1997 – 2001



**Figure 16.3**

\*Five-year average annual rate per 100,000 West Virginia residents

## Non-Hodgkin's Lymphoma

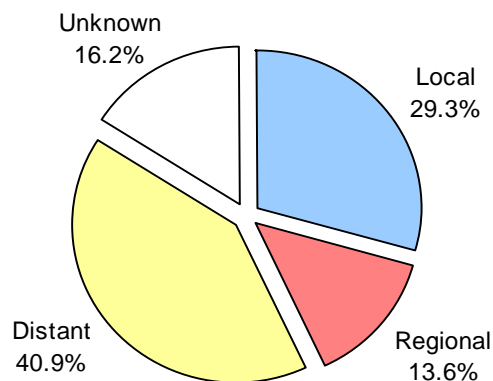
Most Frequent Histologies  
West Virginia Residents 1997 – 2001

ICD-O Code	Histology	% of Invasive Cases
9680	Lymphoma, Large Cell Diffuse, NOS	31.4
9590	Lymphoma, NOS	13.3
9591	Lymphoma, Non-Hodgkin's, NOS	11.4
9670	Lymphoma, Small Lymphocytic	9.2
9695	Lymphoma, Small Cleaved Cell, Follicular	6.2
9691	Lymphoma, Mixed Small Cleaved and Large Cell, Follicular	5.9
9690	Lymphoma, Follicular, NOS	4.2
9699	Marginal Zone B-cell Lymphoma, NOS	3.0

**Table 16.2**

## Non-Hodgkin's Lymphoma

Stage of Disease at Diagnosis  
West Virginia Residents 1997 – 2001

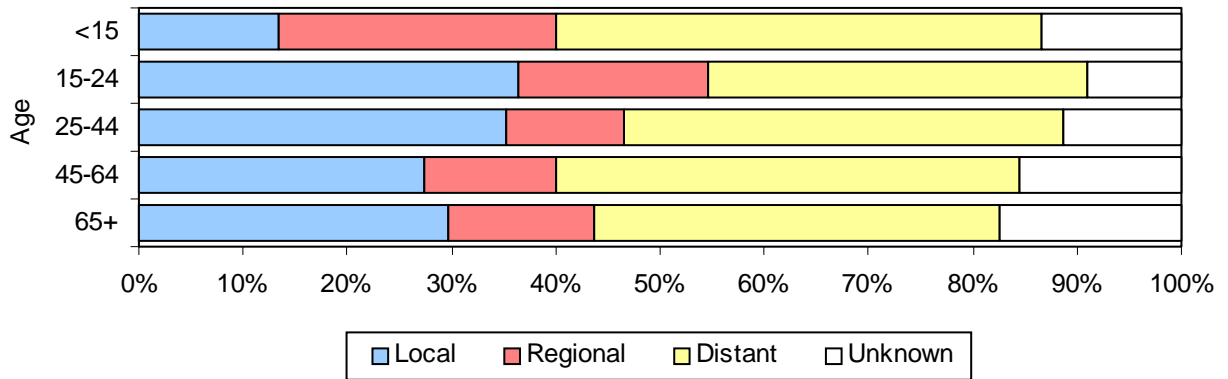


**Figure 16.4**

## Non-Hodgkin's Lymphoma

### Stage of Disease at Diagnosis by Age

#### West Virginia Residents 1997 – 2001



Age	In Situ		Local		Regional		Distant		Unknown		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
<15	N/A		~		4	26.7%	7	46.7%	~		15	100.0%
15-24	N/A		~		4	18.2%	8	36.4%	~		22	100.0%
25-44	N/A		50	35.2%	16	11.3%	60	42.3%	16	11.3%	142	100.0%
45-64	N/A		157	27.3%	73	12.7%	256	44.5%	89	15.5%	575	100.0%
65+	N/A		344	29.7%	163	14.1%	451	38.9%	201	17.3%	1,159	100.0%
Total	N/A		561	29.3%	260	13.6%	782	40.9%	310	16.2%	1,913	100.0%

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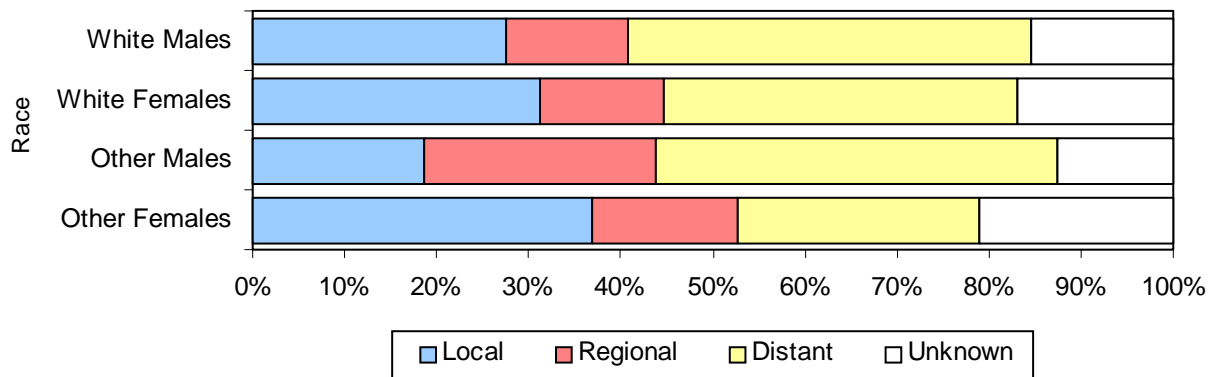
Total may not add to 100% due to rounding.

**Figure 16.5**

## Non-Hodgkin's Lymphoma

### Stage of Disease at Diagnosis by Race and Sex

#### West Virginia Residents 1997 – 2001



Race/Sex	In Situ		Local		Regional		Distant		Unknown		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
White Males	N/A		256	27.5%	125	13.4%	408	43.8%	143	15.3%	932	100.0%
White Females	N/A		295	31.2%	128	13.5%	362	38.3%	161	17.0%	946	100.0%
Other Males	N/A		~		~		7	43.8%	~		16	100.0%
Other Females	N/A		~		~		5	26.3%	~		19	100.0%
Total	N/A		561	29.3%	260	13.6%	782	40.9%	310	16.2%	1,913	100.0%

~ Suppressed due to small cell size

Total may not add to 100% due to rounding.

**Figure 16.6**