Louisiana Cancer Facts & Figures, Non-Hodgkin Lymphoma

Louisiana Tumor Registry

July, 2017
Non-Hodgkin Lymphoma

- Non-Hodgkin lymphoma was the 6th most common cancer and the 8th leading cause of cancer deaths in Louisiana from 2010 to 2014.¹
- Between 2010 and 2014, the Louisiana incidence rate for lung cancer ranked 18th and the mortality rate ranked 5th in the nation.¹
- About 990 new lung cancers are expected to be diagnosed and about 330 patients are expected to die of lung cancer in 2017 in Louisiana.²

¹ Data source: NCI state cancer profile.
Non-Hodgkin Lymphoma: Age-Specific Incidence Rates#, Louisiana, 2010-2014

#Invasive cases only.
Non-Hodgkin Lymphoma: Age-Specific Incidence Rates # by Gender, 2010-2014

#Invasive cases only.
U.S. data source: 18 SEER registries.
Non-Hodgkin Lymphoma: Age-Specific Incidence Rates # by Race, 2010-2014

Rate Per 100,000

Age at Diagnosis

LA White
US White
LA Black
US Black

#Invasive cases only.
U.S. data source: 18 SEER registries.
Non-Hodgkin Lymphoma: Incidence Rates\(^\#,1,2\) 2010-2014

![Bar chart showing incidence rates for different demographics in Louisiana compared to the U.S.](chart.png)

\(^\#\) Invasive cases only.

\(^1\) Age-adjusted to the 2000 U.S. standard population.

\(^2\) U.S. Incidence data source: 18 SEER registries.

↓↑Rate of Louisiana is significantly different from that of the U.S.
Incidence Rates of Non-Hodgkin Lymphoma in the U.S., All Races, Both Sexes, 2010-2014

Notes:
State Cancer Registries may provide more current or more local data. Data presented on the State Cancer Profiles Web Site may differ from statistics reported by the State Cancer Registries (for more information). Incidence rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population (19 age groups: <1, 1-4, 5-9, ..., 80-84, 85+). Rates are for invasive cancer only (except for bladder which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER*Stat. Population counts for denominators are based on Census populations as modified by NCI. The 1969-2015 US Population Data File is used for SEER and NPCR incidence rates. Data have been suppressed to ensure confidentiality and stability of rate estimates. Data is currently being suppressed if there are fewer than 16 counts for the time period. Data have been suppressed for states with a population below 50,000 per sex combination for American Indian/Alaska Native or Asian/Pacific Islanders because of concerns regarding the relatively small size of these populations in some states. Data for the United States does not include data from Puerto Rico.

# Only invasive cases.
Non-Hodgkin Lymphoma Incidence#,1,2 by Louisiana Region3: Whites, 2010-2014

# Invasive cases only.
1 Age-adjusted to the 2000 U.S. standard population.
2 Data source for U.S. was the 18 SEER registries.
3 See Appendix A.

* Incidence rate of regions/Louisiana is significantly different from that of U.S.
Non-Hodgkin Lymphoma Incidence#,1,2, by Louisiana Region³: Blacks, 2010-2014

- Invasive cases only.
- Age-adjusted to the 2000 U.S. standard population.
- Data source for U.S. was the 18 SEER registries.
- See Appendix A.
- Incidence rate of regions/Louisiana is significantly different from that of U.S.
Non-Hodgkin Lymphoma: Trend of Incidence Rates#,1,2, Whites 1988-2014

# Invasive cases only.
1 Age-adjusted to the 2000 U.S. standard population.
2 U.S. data source: 18 SEER registries.
Non-Hodgkin Lymphoma: Trend of Incidence Rates#,1,2, Blacks 1988-2014

# Invasive cases only.
1 Age-adjusted to the 2000 U.S. standard population.
2 U.S. data source: 18 SEER registries.
Non-Hodgkin Lymphoma: Mortality Rates\(^1\), Louisiana vs. U.S.\(^2\), 2010-2014

<table>
<thead>
<tr>
<th></th>
<th>Louisiana</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Male</td>
<td>8.9</td>
<td>7.9</td>
</tr>
<tr>
<td>White Female</td>
<td>5.4</td>
<td>4.8</td>
</tr>
<tr>
<td>Black Male</td>
<td>6.9</td>
<td>5.5</td>
</tr>
<tr>
<td>Black Female</td>
<td>3.6</td>
<td>3.5</td>
</tr>
</tbody>
</table>

\(^1\) Age-adjusted to the 2000 U.S. standard population.
\(^2\) Mortality data source was National Center of Health Statistics (NCHS).
\(\uparrow\uparrow\) Rate of Louisiana is significantly different from that of the U.S.
Mortality Rates of Non-Hodgkin Lymphoma in the U.S., All Races, Both Sexes, 2010-2014

Notes:
State Cancer Registries may provide more current or more local data.
Data presented on the State Cancer Profiles Web Site may differ from statistics reported by the State Cancer Registries (for more information).
Source: Death data provided by the National Vital Statistics System public use data file. Death rates calculated by the National Cancer Institute using SEER*Stat. Death rates (deaths per 100,000 population per year) are age-adjusted to the 2000 US standard population (19 age groups: <1, 1-4, 5-9, ..., 80-84, 85+). The Healthy People 2020 goals are based on rates adjusted using different methods but the differences should be minimal.
Non-Hodgkin Lymphoma: Trends of Mortality Rates\textsuperscript{1,2}, Whites, 1988-2014

\textsuperscript{1} Age-adjusted to the 2000 U.S. standard population.
\textsuperscript{2} Data source: National Center of Health Statistics (NCHS).
Non-Hodgkin Lymphoma: Trends of Mortality Rates\textsuperscript{1,2}, Blacks, 1988-2014

\begin{itemize}
\item \textsuperscript{1} Age-adjusted to the 2000 U.S. standard population.
\item \textsuperscript{2} Data source: National Center of Health Statistics (NCHS).
\end{itemize}
Non-Hodgkin Lymphoma: Louisiana, 1988-2014
Trends of Incidence\# and Mortality Rates by Gender

<table>
<thead>
<tr>
<th>Year of Diagnosis/Death</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>Male Incidence (APC = 1.0*)</td>
</tr>
<tr>
<td>1993</td>
<td>Male Incidence (APC = 1.0*)</td>
</tr>
<tr>
<td>1998</td>
<td>Male Incidence (APC = 1.0*)</td>
</tr>
<tr>
<td>2003</td>
<td>Male Incidence (APC = 1.0*)</td>
</tr>
<tr>
<td>2008</td>
<td>Male Incidence (APC = 1.0*)</td>
</tr>
<tr>
<td>2013</td>
<td>Male Incidence (APC = 1.0*)</td>
</tr>
</tbody>
</table>

\# Invasive cases only.

Annual average percent change (APC) were calculated using weighted least squares method.

* APC significantly different from zero.
Non-Hodgkin Lymphoma: Louisiana, 1988-2014
Trends of Incidence# and Mortality Rates by Race

Year of Diagnosis/Death

Rate per 100,000

White Incidence (APC = 0.9*)
Black Incidence (APC = 1.6*)
White Mortality (APC = -1.3*)
Black Mortality (APC = -0.5*)

#Invasive cases only.
Annual average percent change (APC) were calculated using weighted least squares method.
* APC significantly different from zero.
Non-Hodgkin Lymphoma#: Louisiana
5-Year Relative Survival by Stage\(^1\), White Males, 2007-2013

Percent of Cases by Stage

Unstaged 5%
Regional 16%
Distant 48%
Localized 31%

5-year Relative Survival Rate (%)

- Localized: 75.0%
- Regional: 73.1%
- Distant: 52.7%
- Unstaged: 63.2%

#Only invasive cases.
\(^1\) The stage distribution is based on Summary Stage 2000.
Non-Hodgkin Lymphoma#: Louisiana
5-Year Relative Survival by Stage¹, Black Males, 2007-2013

5-year Relative Survival Rate (%)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized</td>
<td>67.9%</td>
</tr>
<tr>
<td>Regional</td>
<td>64.0%</td>
</tr>
<tr>
<td>Distant</td>
<td>41.6%</td>
</tr>
<tr>
<td>Unstaged</td>
<td>39.9%</td>
</tr>
</tbody>
</table>

Percent of Cases by Stage

- Localized: 24%
- Regional: 14%
- Distant: 58%
- Unstaged: 4%

#Only invasive cases.
¹ The stage distribution is based on Summary Stage 2000.
Non-Hodgkin Lymphoma#: Louisiana 5-Year Relative Survival by Stage¹, White Females, 2007-2013

#Only invasive cases.
¹ The stage distribution is based on Summary Stage 2000.

5-year Relative Survival Rate (%)

Percent of Cases by Stage

- Localized: 80.8%
- Regional: 74.2%
- Distant: 60.4%
- Unstaged: 78.3%

Unstaged: 6%
Localized: 32%
Distant: 48%
Regional: 14%
Non-Hodgkin Lymphoma#: Louisiana
5-Year Relative Survival by Stage¹, Black Females, 2007-2013

Percent of Cases by Stage

- Localized: 35%
- Regional: 14%
- Distant: 46%
- Unstaged: 5%

5-year Relative Survival Rate (%)

- Localized: 81.7%
- Regional: 63.3%
- Distant: 52.9%
- Unstaged: 74.7%

#Only invasive cases.
¹ The stage distribution is based on Summary Stage 2000.
## Appendix A. Regions of the Louisiana Tumor Registry

<table>
<thead>
<tr>
<th>Regional Registry</th>
<th>Beginning Date of the Registry</th>
<th>Average Annual Population, 2010-2014</th>
<th>Parishes Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1 – New Orleans</td>
<td>1974</td>
<td>21,864</td>
<td>Jefferson, Orleans, St. Bernard</td>
</tr>
<tr>
<td>Region 3 – Southeast Louisiana</td>
<td>1983</td>
<td>17,036</td>
<td>Lafourche, Plaquemines, St. Charles, St. James, St. John, St. Tammany, Terrebonne, Washington</td>
</tr>
<tr>
<td>Region 4 – Acadiana</td>
<td>1983</td>
<td>17,032</td>
<td>Acadia, Evangeline, Iberia, Lafayette, St. Landry, St. Martin, St. Mary, Vermilion</td>
</tr>
<tr>
<td>Region 5 – Southwest Louisiana</td>
<td>1983</td>
<td>7,698</td>
<td>Allen, Beauregard, Calcasieu, Cameron, Jefferson Davis</td>
</tr>
<tr>
<td>Region 6 – Central Louisiana</td>
<td>1988</td>
<td>8,283</td>
<td>Avoyelles, Catahoula, Concordia, Grant, La Salle, Rapides, Vernon, Winn</td>
</tr>
<tr>
<td>Region 7 – Northwest Louisiana</td>
<td>1988</td>
<td>14,817</td>
<td>Bienville, Bossier, Caddo, Claiborne, De Soto, Natchitoches, Red River, Sabine, Webster</td>
</tr>
<tr>
<td>Region 8 – Northeast Louisiana</td>
<td>1988</td>
<td>9,061</td>
<td>Caldwell, East Carroll, Franklin, Jackson, Lincoln, Madison, Morehouse, Ouachita, Richland, Tensas, Union, West Carroll</td>
</tr>
<tr>
<td>Entire State</td>
<td>1988</td>
<td>119,201</td>
<td></td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Census and National Cancer Institute, April 2017.
Data Sources

Surveillance, Epidemiology, and End Results (SEER) Program
(www.seer.cancer.gov) SEER*Stat Databases, National Cancer Institute,
DCCPS, Surveillance Research Program, Surveillance Systems Branch,
released April 2017, based on the November 2016 submission.

For Incidence:
• Incidence - SEER 18 Regs Research Data + Hurricane Katrina
  Impacted Louisiana Cases, Nov 2016 Sub (2000-2014) <Katrina/Rita
  Population Adjustment>

For Mortality:
• mortality – All COD, Aggregated With State, Total U.S. (1969-2014)
  <Katrina/Rita Population Adjustment>>

For Survival:
• Incidence - SEER 18 Regs Research Data + Hurricane Katrina
  Impacted Louisiana Cases, Nov 2015 Sub (1973-2013 varying)
Data Sources

• **USCS:**

• **Cancer Facts & Figures:**
Data Sources

NCI State profiles

• Incidence Data Sources:
  – Incidence data are provided by the National Program of Cancer Registries External Web Site Policy Cancer Surveillance System (NPCR-CSS), Centers for Disease Control and Prevention and by the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program External Web Site Policy.
  – Population counts for denominators are based on Census populations as modified by NCI.
  – Rates are calculated using SEER*Stat External Web Site Policy.

• Mortality Data Sources:
  – Mortality data are provided by the National Vital Statistics System External Web Site Policy at the National Center for Health Statistics of the Centers for Disease Control and Prevention.
  – Population counts for denominators are based on Census populations as modified by NCI.
  – Rates are calculated using SEER*Stat External Web Site Policy.
  – Trends are determined by using Joinpoint External Web Site Policy analysis of available historical data and reporting the last segment as the most recent trend.
Acknowledgements

- Hospital cancer registries (http://louisianatumorregistry.lsuhsc.edu/)
- Louisiana Cancer Registrars’ Association (http://www.lcra-usa.org/)
- Physicians and staff members in:
  - Medical records offices
  - Pathology laboratories
  - Physician offices and clinics
  - Hospice programs and nursing homes
- Regional and central offices of the Louisiana Tumor Registry (http://louisianatumorregistry.lsuhsc.edu/regionalregistries.html)
- School of Public Health, LSU Health Sciences Center–New Orleans
- Louisiana Cancer and Lung Trust Fund Board
- Coroners’ offices
Sources of LTR Funding

- National Cancer Institute, SEER Program
- Centers for Disease Control and Prevention (CDC), National Program of Cancer Registries (NPCR)
- Louisiana Health Care Services Division
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