

Louisiana Cancer Facts & Figures

Lung Cancer

2016

Louisiana Tumor Registry
June 2016

Contents

Contents:

Contents.....	2
Introduction to the Louisiana Tumor Registry	3
Basic Definitions	4
Lung Cancer Overview	5
Lung Cancer Symptoms	7
Lung Cancer Risk Factors	8
Lung Cancer Screening	10
Lung Cancer Diagnosis & Staging	11
Lung Cancer Treatment.....	13
What You Can Do.....	15
Lung Cancer in Louisiana	16
Figure 1: Incidence Rates, Lung Cancer, Louisiana vs. U.S., 2008-2012	17
Figure 2: Age-Specific Incidence Rates, Lung Cancer, Louisiana, 2009-2013.....	18
Figure 3: Trends of Cancer Incidence, Lung Cancer, Whites, 1988-2013.....	19
Figure 4: Trends of Cancer Incidence, Lung Cancer, Blacks, 1988-2013	20
Figure 5: Mortality Rates, Lung Cancer, Louisiana vs. U.S., 2009-2013	21
Figure 6: Trends of Cancer Mortality, Lung Cancer, Whites, 1988-2013.....	22
Figure 7: Trends of Cancer Mortality, Lung Cancer, Blacks, 1988-2012	23
Figure 8: Trends of Incidence and Mortality, Lung Cancer, Louisiana Males, 2001-2013.....	24
Figure 9: 5-Year Relative Survival by Stage and Race, Lung Cancer, Louisiana Males, 2009-2013.....	25
Figure 10: Trends of Incidence and Mortality Lung Cancer, Louisiana Females, 2001-2013.....	26
Figure 11: 5-Year Relative Survival by Stage and Race, Lung Cancer, Louisiana Females, 2009-2013.....	27
Contributors	28
Acknowledgements.....	29
Sources of LTR Funding.....	30
Questions?.....	31

Introduction to the Louisiana Tumor Registry

Mission

The mission of the Louisiana Tumor Registry (LTR) is to describe the burden of cancer in Louisiana by collecting complete and high-quality cancer data and by compiling timely statistics so that data-driven cancer prevention and control programs can be implemented in the state to reduce cancer morbidity and mortality.

History

Population-based cancer registration in Louisiana began in 1947 at the Charity Hospital Tumor Registry in New Orleans. In 1974, as part of its Surveillance, Epidemiology and End Results (SEER) Program, the National Cancer Institute provided funds for a cancer incidence and survival registry covering Jefferson, Orleans, and St. Bernard parishes.

Five years later, the Louisiana Tumor Registry (LTR) was transferred to the state Office of Public Health, which expanded the LTR catchment area in 1983 to include all 35 parishes of South Louisiana (Regions I-V). In 1988, when the 29 parishes of North Louisiana (Regions VI-VIII) were added, statewide coverage was achieved.

Milestones in the history of the LTR include:

- 1974: The LTR became one of the original participants in the Surveillance, Epidemiology and End Results (SEER) Program, funded by the National Cancer Institute (NCI).
- 1995: The LTR was transferred from the Office of Public Health to the LSU Board of Supervisors. Since then, the LSU Health Sciences Center in New Orleans has been responsible for the cancer registry program, providing the state funding.
- 2001: The Louisiana Tumor Registry was selected as one of four new expansion registries to join the prestigious SEER Program after a rigorous competitive application process.
- 2011-2016: Based on the completeness and accuracy of its data, Louisiana has been ranked in the highest tier of the SEER Program.

Statewide cancer incidence data are available for the years 1988 and later.

Visit the LTR website for more information: <http://sph.lsuhscc.edu/louisiana-tumor-registry>

Basic Definitions

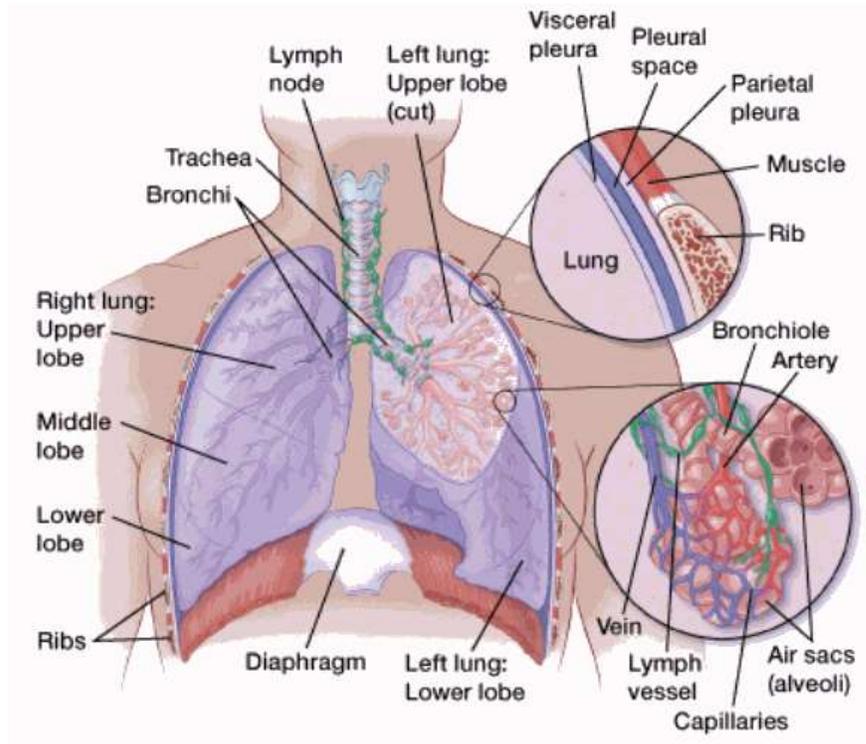
Throughout this publication, we will use some basic epidemiological/health-related terms, which are defined here:

- **Cancer incidence:** Newly diagnosed cancer cases.
 - Generally, this includes newly diagnosed cases of any cancers in a specified area/population during a designated time period. Cancer registries abstract the primary, or the first recorded, cancer. Secondary (metastatic, or distant) cancers are not counted as incident cases.
- **Cancer mortality:** Deaths where cancer is listed as the underlying cause of death on a death certificate.
 - For example, if a person who was treated for cancer dies of a heart attack, this would not count as a cancer death.
- **Age Adjustment:** A mathematical process that weights the data to make it possible to compare two different populations by making them more similar in population age structure. This is necessary because cancer incidence correlates strongly with age.
 - Louisiana incidence and mortality rates are adjusted to the 2000 U.S. standard population.
- **Relative Survival:** A comparison of the overall survival of cancer patients during a specified period with survival in a population similar in age, race, and sex that does not have cancer. Since members of both groups may die of non-cancer related causes during that period, the difference in mortality can be attributed to cancer.
- **Average Annual Percent Change:** This quantifies trends of change in incidence or mortality during a specified period. Because it is an average, it assumes that the change is constant from one year to the next during some period of time, even though in fact the changes will fluctuate annually.
- **Surveillance, Epidemiology, End Results (SEER):** The SEER program is a division of the National Cancer Institute (NCI) that began in 1973 and now collects and publishes cancer incidence and survival data from 18 population-based cancer registries in the United States (about a fourth of the US population). More information about SEER can be found on its website:
<http://seer.cancer.gov/about/overview.html>.

Lung Cancer Overview

Lung cancer is a general term for any kind of cancer that starts in the lung, while bronchus cancer is the name for a cancer that starts in the bronchus, also called the windpipe or trachea, of the lung. Generally, both are referred to as lung cancer.

Lung cancer begins in the cells lining the bronchi or other parts of the lung, for example the bronchioles or the alveoli.¹



The two major types of lung cancer include:

- Non-small cell lung cancer
- Small cell lung cancer

¹ Image source: <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-what-is-non-small-cell-lung-cancer>

Lung Cancer Overview (2)

Non-small cell lung cancer (NSCLC)²

Non-small cell lung cancer accounts for 85% - 90% of all lung cancers diagnosed and comprises three different subtypes of non-small cell lung cancer:

- *Adenocarcinoma*
 - Accounts for about 40% of NSCLC
 - Start in cells that secrete mucus, and usually occurs in outer parts of the lung
 - Grows more slowly than most other types and is likely to be found before it expands beyond of the lung
 - More common in women than men
 - More likely to occur in young people than other types of lung cancer
 - Most frequently found in current or former smokers
 - But non-smokers with lung cancer tend to have this kind of cancer
- *Squamous cell (epidermoid) carcinoma*
 - Accounts for 25% - 30% of NSCLC
 - Starts in squamous cells, the flat cells that line the inside of the airways
 - Usually found in those who have smoked
 - Often found in the middle of the lungs, near a bronchus
- *Large cell (undifferentiated) carcinoma*
 - Accounts for 10% - 15% of NSCLC
 - Can appear in any part of the lung
 - Tends to grow and spread very quickly

Small cell lung cancer³

Small cell lung cancer is sometimes also known by the names oat cell cancer, oat cell carcinoma, or small cell undifferentiated carcinoma. It is rarely found in those who have no history of smoking. SCLC often begins in the bronchi, and spreads quickly throughout the lung and body.

Other types⁴

Though non-small cell lung cancer and small cell lung cancer are the most common types of lung cancers diagnosed, it is also possible to have lung carcinoid tumors, benign lung tumors, or cancers that have spread to the lungs but originated in other places (frequently, from the kidney, skin, breast, or pancreas).

² <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-what-is-non-small-cell-lung-cancer>

³ <http://www.cancer.org/cancer/lungcancer-smallcell/detailedguide/small-cell-lung-cancer-what-is-small-cell-lung-cancer>

⁴ Information can be found at either of the above reference links

Lung Cancer Symptoms

Signs and symptoms for any type of lung and bronchus cancer can include any combination of:

- Persistent cough, especially one that gets worse over time
- Chest pain, especially that is worse with deep breaths, coughs, or laughter
- Hoarseness
- Weight loss and/or loss of appetite
- Coughing up blood or rust-colored sputum
- Shortness of breath
- Feeling tired or weak
- Infections such as bronchitis and pneumonia that persist
- Sudden onset of wheezing⁵

Many of these problems can be caused by conditions other than lung or bronchus cancer. Still, if these problems are present, it's important to see a doctor right away so the cause can be found and treated.

⁵ <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-signs-symptoms> & <http://www.cancer.org/cancer/lungcancer-smallcell/detailedguide/small-cell-lung-cancer-signs-symptoms>

Lung Cancer Risk Factors

A *risk factor* is anything that affects the chances of getting a disease. Different cancers have different risk factors. The presence or absence of risk factors does not always indicate whether an individual will or will not get the disease.

In general, there are two types of risk factors: modifiable and non-modifiable. The modifiable group comprises risk factors or lifestyle choices that can be changed, usually to reduce the risk of cancers as well as other chronic diseases. Non-modifiable risk factors cannot be changed, and usually include age, gender, or genetic conditions.

Smoking is the risk factor most closely associated with lung cancer, though there are others.⁶

Modifiable Risk Factors:

- *Smoking tobacco*: It is thought that 80% of lung cancer deaths are the result of smoking tobacco and tobacco products. The risk of lung cancer for smokers is much higher than that of non-smokers: those who smoke are 15 to 30 times more likely to get lung cancer than those who do not. Smoking also has a dose-response relationship (the more you smoke, the higher your risk).
- *Secondhand smoke*: Inhalation of cigarette smoke, even secondhand, increases lung cancer risk.
- *Radon*: Exposure to radon occurs naturally and is usually found in homes and buildings in contact with rock or dirt. Colorless and odorless, it can be measured with radon detection kits or by hiring a professional to test levels in a home or workplace. Radon exposure is considered the number one risk factor for lung cancer in non-smokers.
- *Asbestos*: Through government regulation, its use in insulation has decreased in many buildings and products; however in older homes and buildings it can be released because of deterioration, demolition, or renovation. Occupational exposures are the most intense and thus the most dangerous. Inhalation of asbestos increases the risk of mesothelioma, asbestosis, or lung cancer.
- *Other workplace exposures*: Including those to uranium, arsenic, beryllium, cadmium, other chemicals and compounds, and diesel exhaust.

⁶ information from: <http://www.mayoclinic.org/diseases-conditions/lung-cancer/basics/risk-factors/con-20025531>, <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-risk-factors>, http://www.cdc.gov/cancer/lung/basic_info/risk_factors.html, <http://www.lungcanceralliance.org/am-i-at-risk/what-do-i-need-to-know-about-risk/am-i-at-risk-for-lung-cancer/>

Lung Cancer Risk Factors (2)

Non-modifiable Risk Factors:

- *Personal history of lung cancer:* Survivors experience an increased risk of a second cancer in the lungs, especially if they continue to smoke.
- *Family history of lung cancer:* Risk is increased if one's parents, brothers, sisters, or children have had lung cancer, likely due to similar risk exposures or through inherited or environmentally acquired gene mutations.
- *Previous radiation therapy to the chest:* People treated with radiation to the chest, usually for other cancers such as Hodgkin disease or breast cancer, are at an increased risk of lung cancer.
- *Lung-related diseases:* Diseases like emphysema, chronic bronchitis, and asthma could increase lung cancer risk even in those who have never smoked.
- *Air pollution:* The tiny particles in air pollution (often referred to as particulate matter) raise the risk of lung cancer.

Lung Cancer Screening

Screening is the use of tests or exams to detect a disease in people without any symptoms of the given disease. Unfortunately, often symptoms of lung cancer do not begin until after the disease has progressed to an advanced stage, at which time the prognosis becomes worse. Symptoms are also often mistaken for complications from smoking or infections, delaying diagnosis. Occasionally, lung cancers are found by accident in an early stage, as a result of a test, such as an imaging test, bronchoscopy, or sputum cytology done for another lung condition.

Although no screening tests for lung and bronchus cancer are effective for the average person, the American Cancer Society now advises that those who meet *all* the criteria below are possible candidates for lung cancer screening:

- Between 55 and 74 years old
- In fairly good health (meaning they could withstand treatment including radiation, chemotherapy, and surgeries, and do not require home oxygen therapy or have some other serious medical problem)
- Have a 30 pack/year smoking history
- Are still smoking or have quit within the last 15 years

Lung cancer screening test recommendations were developed after a large clinical trial called the National Lung Screening Trial. Based on the results from this study, the ACS recommends 3 low-dose CT scans or chest x-rays over the course of 3 years, a year apart, to look for any abnormal areas in the lungs. There are some downsides, as the abnormalities found may ultimately prove not to be cancer. In addition, even the low-dose CT scan will expose a patient to a small amount of radiation, which could increase risk for other cancers later. A doctor should discuss the benefits and risks of screening with each patient to determine if it is right for them, even if they meet the criteria above.⁷

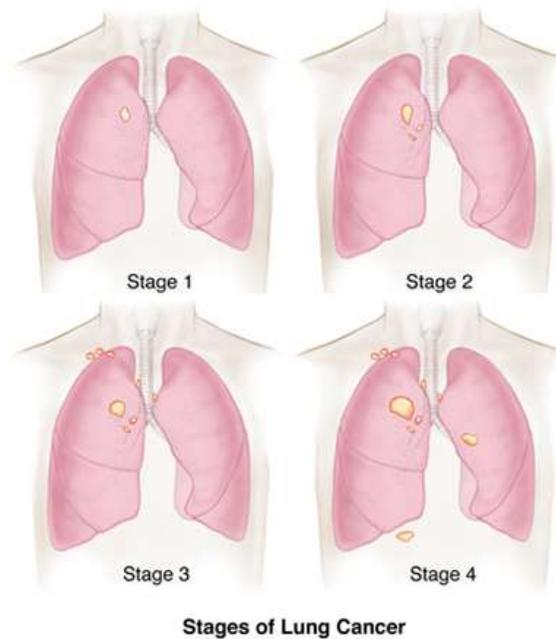
⁷ <http://www.cancer.org/cancer/lungcancer-smallcell/detailedguide/small-cell-lung-cancer-detection> & <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-detection>

Lung Cancer Diagnosis & Staging

Lung cancer is usually diagnosed through a combination of imaging tests such as CT scans, bronchoscopy, MRIs, or ultrasounds and through different lab tests that analyze lung cells with a microscope.⁸

Staging for lung cancer will be performed after a diagnosis is confirmed.

Physicians use the TNM staging system, where tumor size in the lung (T), extent of spread into nearby lymph nodes (N), and extent of spread to other organs of the body (metastasis) (M) are ascertained through imaging tests, blood tests, and biopsies. A stage of 0 through IV is assigned, or an X if the tumor cannot be properly assessed.⁹



⁸ <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-diagnosis>

⁹ <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-staging> &

http://www.lungcancer.org/find_information/publications/163-lung_cancer_101/268-types_and_staging

image source: http://www.brighamandwomens.org/Departments_and_Services/surgery/thoracic-surgery/thoracic-cancer/lung-cancer.aspx

Lung Cancer Staging

Stage	Tumor Size	Spread
0	Cancer is only in the top layers of cells lining the air passages	No evidence of spread to deeper lung tissues or lymph nodes
I	Between 1.25 inches (3cm) to 2 inches (5 cm) across	Cancer is only in the lungs. No evidence of spread to any lymph nodes within or around the lungs.
II	Between 1.25 inches (3 cm) to 2.75 inches (7 cm) across	Cancer is in the various structures of the lungs, plus has spread to lymph nodes within or near the lungs.
IIIA	Any size tumor	Cancer is in various structures of the lungs and has spread to lymph nodes in the middle of the chest, but has spread only to the lymph nodes on the same side of the chest where the cancer began.
IIIB	Any size tumor	Cancer is in various structures of the lungs and has spread the lymph nodes in the middle of the chest, and to the opposite side of the chest and/or above the collarbone as well. It has not spread to any distant organs.
IV	Any size tumor	Cancer has spread to both lungs, the fluid around the lungs or heart, or even to another part of the body. There is evidence of spread to both nearby and distant lymph nodes.

Lung Cancer Treatment

The treatment options for lung cancer include: surgery, radiofrequency ablation, radiation therapy, chemotherapy, targeted therapies, or some combination of these depending on the cancer stage, a patient's overall health, and possible side effects of treatment.

As with many other cancers, usually a team of health care workers will treat a patient with lung and bronchus cancer. The team can include not only a patient's regular physician, but also thoracic surgeons, radiation oncologists, medical oncologists, pulmonologists, and other health professionals.¹⁰ This interdisciplinary team will discuss the treatment options and the patient's individual concerns.

Surgery:

Surgery is sometimes an option for early stage NSCLC, and could include the following types of lung surgeries:

- *Pneumonectomy*: removal of an entire lung.
- *Lobectomy*: An entire lobe containing the tumor(s) is removed. This is the preferred type of surgery for NSCLC.
- *Segmentectomy or wedge resection*: Only part of a lobe is removed.
- *Sleeve resection*: A large airway may be shortened in order to preserve more lung function.

Often during any one of these surgeries, nearby lymph nodes will also be removed in order to see if the cancer has spread.¹¹

Radiofrequency Ablation:

When tumors are small and at the outer edge of the lungs, this may be an option. Radiofrequency ablation transmits high-energy radio waves through a needle-like probe that is inserted very close to the tumor to heat the tumor and destroy the cancer cells.¹²

¹⁰ <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-treating-general-info>

¹¹ <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-treating-surgery>

¹² <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-treating-radiofrequency-ablation>

Lung Cancer Treatment (2)

Radiation:

For lung cancer, radiation therapy can be used before, after, or in place of surgery as needed. Two types of radiation therapy are used for treating NSCLC:

- *External beam radiation therapy*: Radiation that originates from outside the body and is concentrated on the area where tumors are located
 - This is the most common type of radiation therapy used to treat NSCLC
- *Brachytherapy (internal radiation therapy)*: Small sources of radioactive material, usually small pellets, are placed in the cancer or directly next to it¹³

Chemotherapy:

- Drugs, either put into a vein or ingested, are used to fight the spread of cancer by dispersing throughout the entire bloodstream
- Used before or after surgery or as the primary form of treatment¹⁴

Targeted therapies:

- Used to treat more advanced cancers
- Specific drugs designed to attack the cancer cells, sparing the normal ones
- Works differently from chemotherapy and can have fewer side effects

Clinical Trials:

Another possible option that can be used in place of or conjunction with standard treatments, with the advice of a physician, is to enroll in a clinical trial. For a current list of cancer clinical trials, visit the National Cancer Institute's clinical trials website at:

<http://www.cancer.gov/clinicaltrials>.

¹³ <http://www.cancer.org/cancer/colonandrectumcancer/overviewguide/colorectal-cancer-overview-treating-radiation>

¹⁴ <http://www.cancer.org/cancer/colonandrectumcancer/overviewguide/colorectal-cancer-overview-treating-chemotherapy>

What You Can Do

The most important risk factor for lung cancer is the use of tobacco products. Know your family history of lung or bronchus cancer, and communicate any history to your health care professional.

For assistance with quitting smoking, the following resources may be helpful:

- <http://smokefree.gov/>
 - Includes quit plans, information on how to manage cravings, and a text-based encouragement service
- http://www.cdc.gov/tobacco/quit_smoking/how_to_quit/resources/
 - Many different helplines and websites, some of which can help connect you to locally based resources
- Louisiana-specific:
 - <http://quitwithusla.org/>
 - <https://www.smokingcessationtrust.org/>
 - <http://tobaccofreeliving.org/>

It is also possible that your workplace, local health center, or faith-based organization may have smoking cessation resources, including support groups and literature on quitting.

Lung Cancer in Louisiana

- In the period 2008-2012, Louisiana had the 11th highest incidence rate and the 9th highest mortality rate for lung cancer in the nation (all races and sexes combined).¹⁵

<i>Lung and Bronchus Cancer</i>	<i>Incidence (cases per 100,000)</i>	<i>Mortality (deaths per 100,000)</i>
Louisiana	73.0	57.6
United States	63.7	47.2

- Lung and bronchus cancer was the third most common incident cancer and the leading cause of cancer death in Louisiana for men and women combined.¹⁶
- About 3,730 new lung and bronchus cancers are expected to be diagnosed and about 2,620 patients are expected to die of lung cancer in Louisiana in 2016.¹⁷

¹⁵ statistics from <http://statecancerprofiles.cancer.gov>

¹⁶ <http://cancerstatisticscenter.cancer.org>

¹⁷ <http://cancerstatisticscenter.cancer.org>

Figure 1: Incidence Rates Lung Cancer, Louisiana vs. U.S., 2009-2013



Figure 1 displays the incidence rates of newly diagnosed lung and bronchus cancer cases in Louisiana and the United States, per 100,000 population, averaged over the years from 2009 through 2013.¹⁸ The arrows indicate that the difference in rates is statistically significant ($p < 0.05$).

- Black males have the highest rate in both Louisiana and the United States; their rates are 27% higher in Louisiana than in the United States.
- In Louisiana, the rates for three of the four major race-sex groups are significantly higher than those of the United States, though the excess is far more pronounced for males.
- The average annual number of new cases for all of Louisiana during 2009-2013 was 3,486 cases, about the same as for 2008-2012.¹⁹

¹⁸ All information is age-adjusted to the 2000 US standard population.

Source for US incidence data: 18 SEER registries.

¹⁹ <http://statecancerprofiles.cancer.gov>

Figure 2: Age-Specific Incidence Rates Lung Cancer, Louisiana, 2009-2013

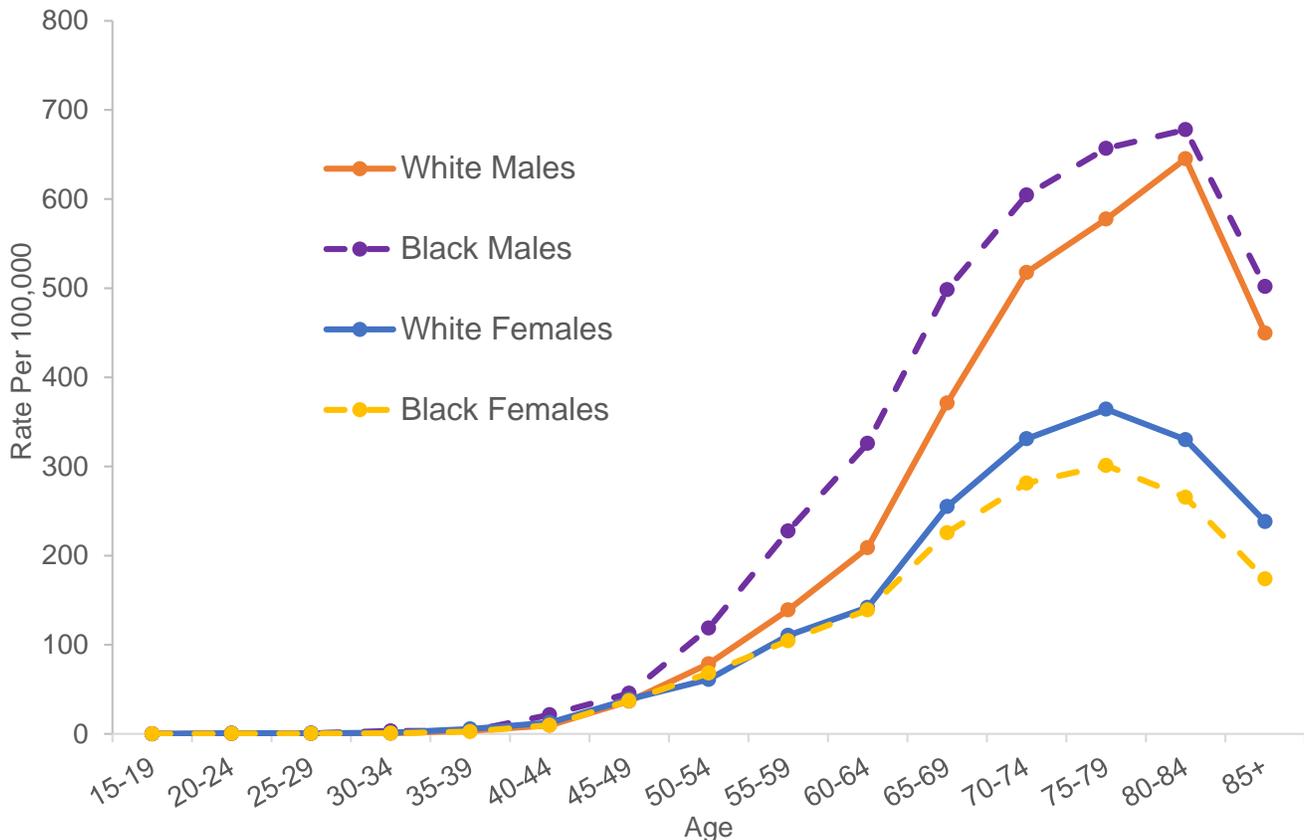


Figure 2 displays the incidence rates of newly diagnosed lung and bronchus cancer (incidence) per 100,000 Louisiana residents, by age at diagnosis.²⁰

- For all four racial/sex stratification groups, incidence rates begin to rise noticeably beginning in the late 40s.
- Nationally, the median age of diagnosis for lung and bronchus cancer is 70 years, and the disease is most frequently diagnosed in people ages 65-74.²¹
- In the United States, about 6.6% of people will be diagnosed with lung and bronchus cancer during their lifetime, based on data from 2010 to 2012.²²

²⁰ All information is age-adjusted to the 2000 US standard population.

Source for US incidence data: 18 SEER registries.

²¹ <http://seer.cancer.gov/statfacts/html/lungb.html>

²² <http://seer.cancer.gov/statfacts/html/lungb.html>

Figure 3: Trends of Cancer Incidence Lung Cancer, Whites, 1988-2013

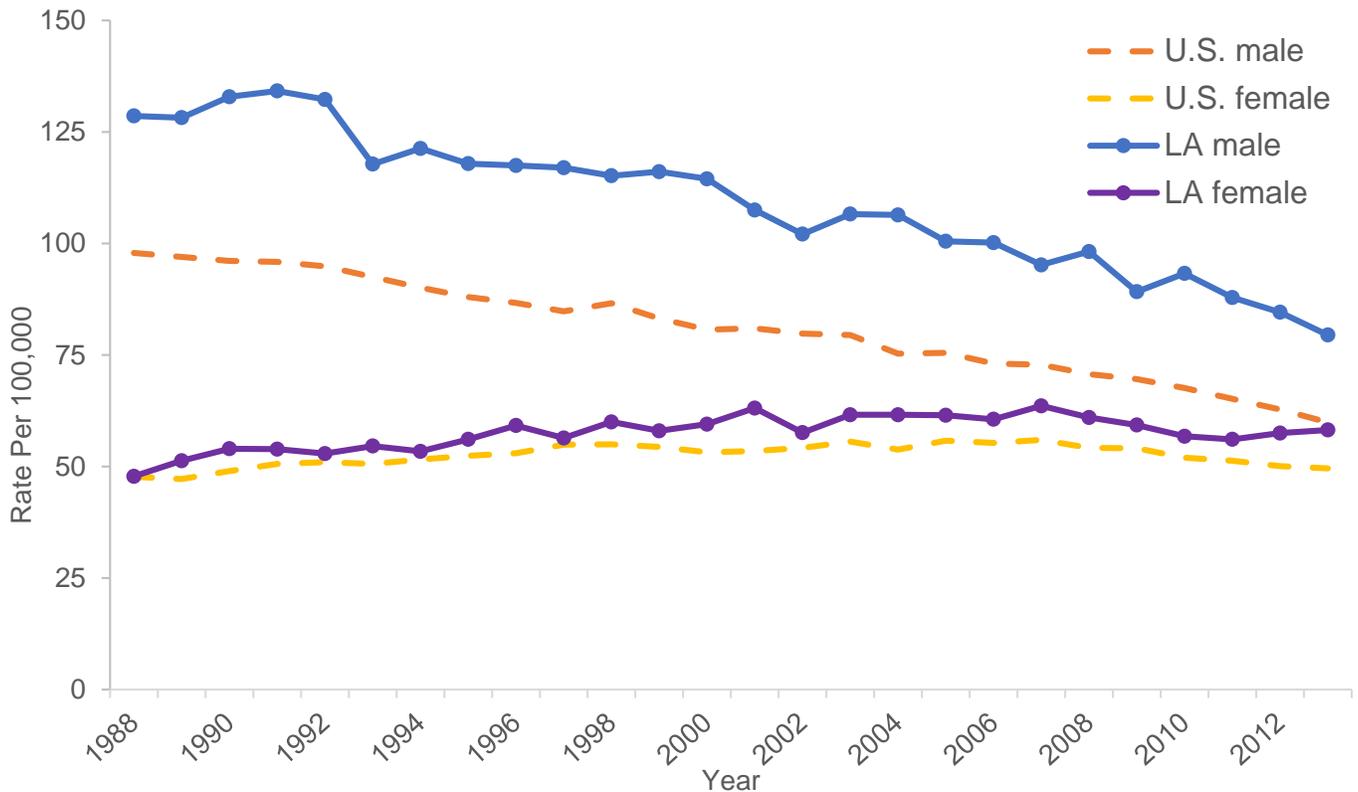


Figure 3 displays the trends of incidence for newly diagnosed lung and bronchus cancer cases per 100,000 individuals, from 1988 to 2013, for whites in Louisiana and the United States.²³

- While there is a clear decline in both the United States and Louisiana for males over time, females seem to either remain fairly steady (the United States) or actually increase slowly (Louisiana).
- Louisiana’s rates are consistently higher than those of the United States for both sexes, though the discrepancy is more pronounced for males.

²³All information is age-adjusted to the 2000 US standard population.
US incidence data source: 9 SEER registries.

Figure 4: Trends of Cancer Incidence Lung Cancer, Blacks, 1988-2013

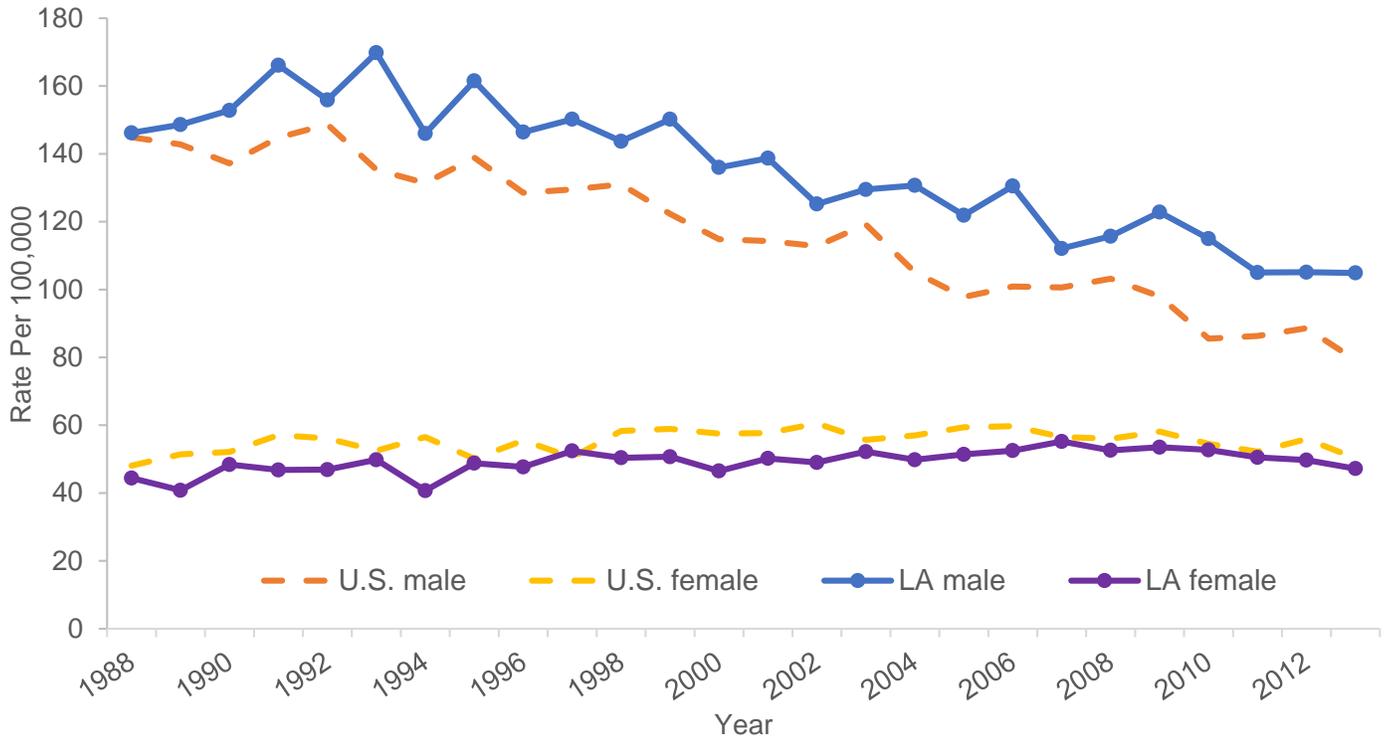


Figure 4 displays the trends of incidence of newly diagnosed lung and bronchus cancer cases per 100,000 individuals, from 1988 to 2013 for blacks.²⁴

- While there is a marked decline in both the United States and Louisiana for black males, females' rates seem to remain fairly steady.
- The rates have been higher for Louisiana than the United States for black males during this entire time period, but the rate for black females in Louisiana tends to be just slightly lower than that of the United States.

²⁴ Age-adjusted to the 2000 US standard population.
US data source: 9 SEER registries.

Figure 5: Mortality Rates Lung Cancer, Louisiana vs. U.S., 2009-2013

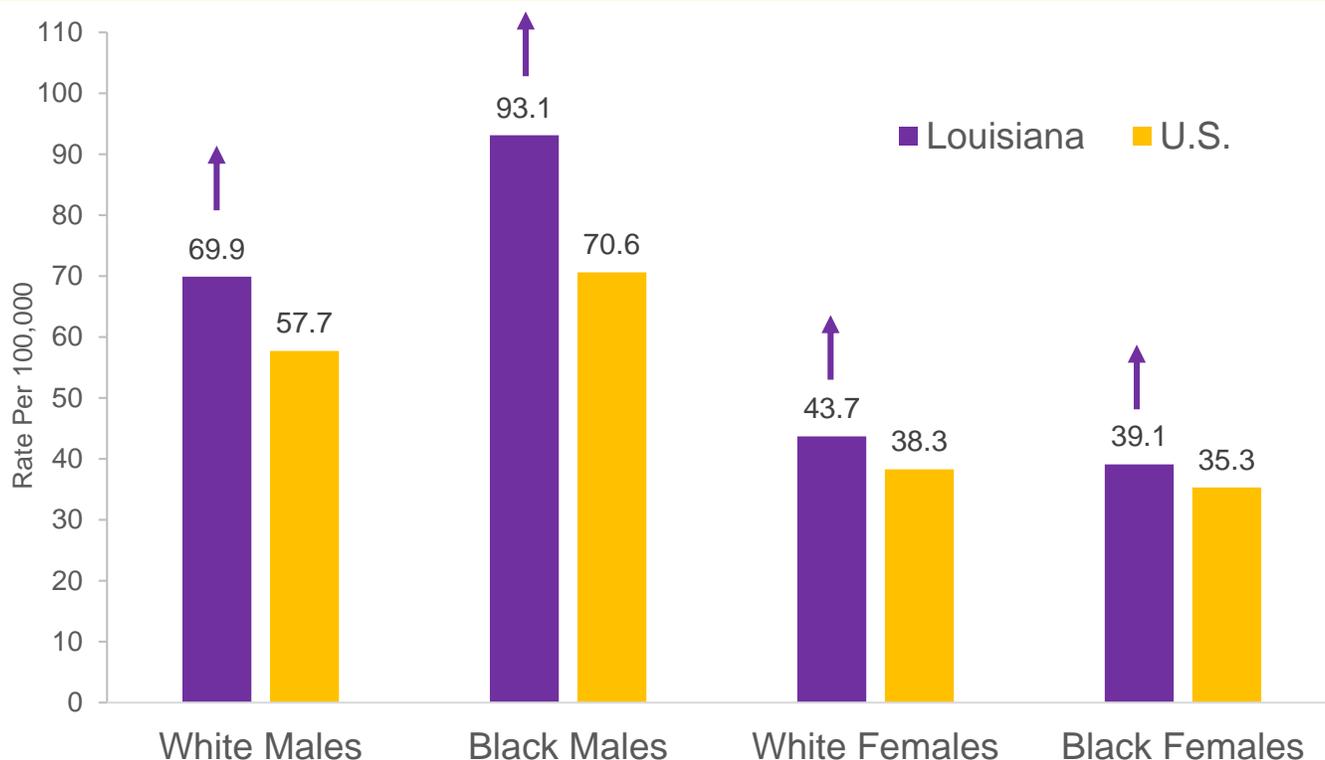


Figure 5 displays the mortality rates of colorectal cancer in both Louisiana and the United States, per 100,000 individuals, averaged over the years 2009 - 2013.²⁵ The arrows indicate that the difference in rates is statistically significant ($p < 0.05$).

- The mortality rates for all four demographic groups in Louisiana are higher than the United States' rates.
- Lung cancer is the leading cause of cancer death in the United States; more people die per year of lung cancer than from breast, colon, and prostate cancers combined.²⁶
- Nationally, the median age of death from lung and bronchus cancer is 72, and the rate is highest between ages 65 to 74.²⁷

²⁵ Age-adjusted to the 2000 US standard population.

Mortality data source was National Center of Health Statistics (NCHS).

²⁶ <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-key-statistics>

²⁷ <http://seer.cancer.gov/statfacts/html/lungb.html>

Figure 6: Trends of Cancer Mortality Lung Cancer, Whites, 1988-2013

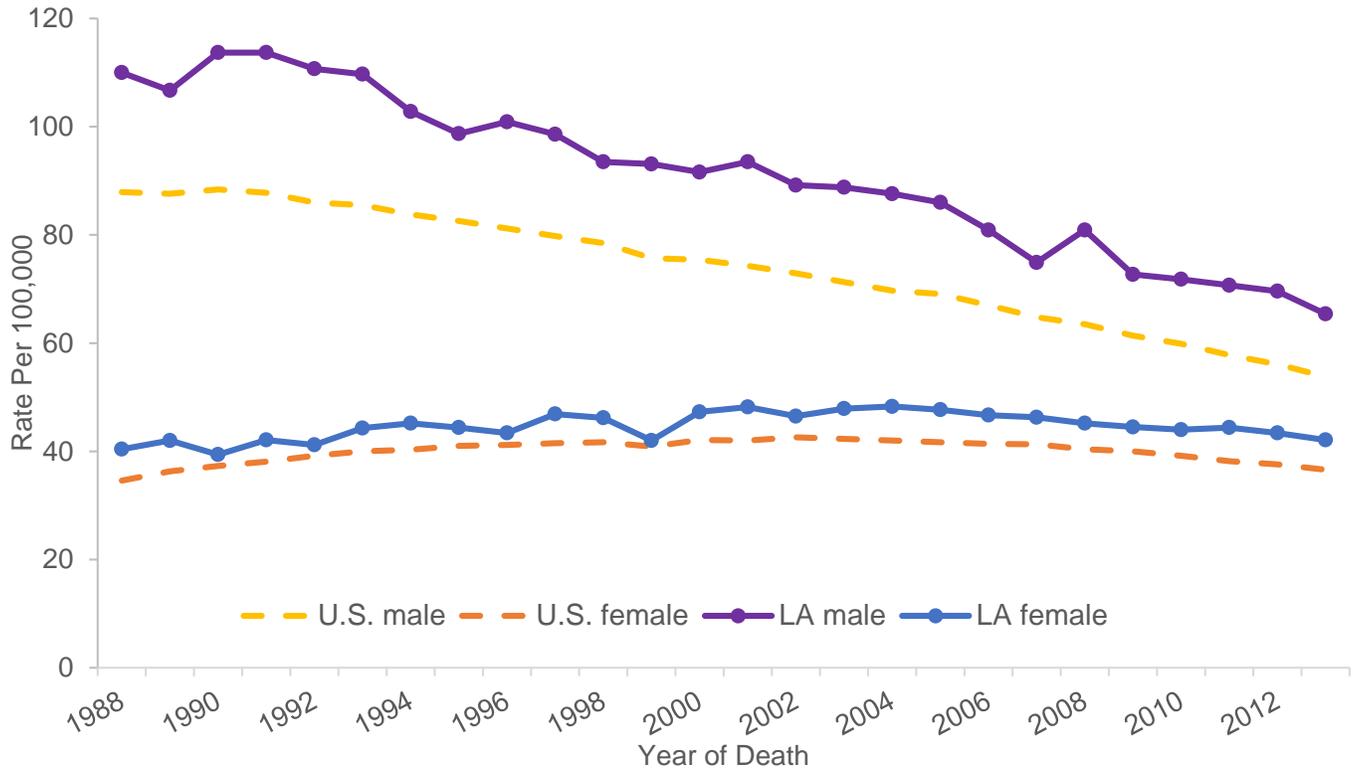


Figure 6 displays the trends of mortality rates for lung and bronchus cancer per 100,000 individuals, from 1988 to 2013 for whites.²⁸

- Rates in Louisiana are much higher than in the United States for males, and slightly higher for females.
- While males seem to be experiencing a steady downward trend in mortality both in Louisiana and the United States, females' mortality seems to remain steady or even raise slightly over time.

²⁸Age-adjusted to the 2000 US standard population.
Mortality data source: National Center of Health Statistics (NCHS).

Figure 7: Trends of Cancer Mortality Lung Cancer, Blacks, 1988-2012

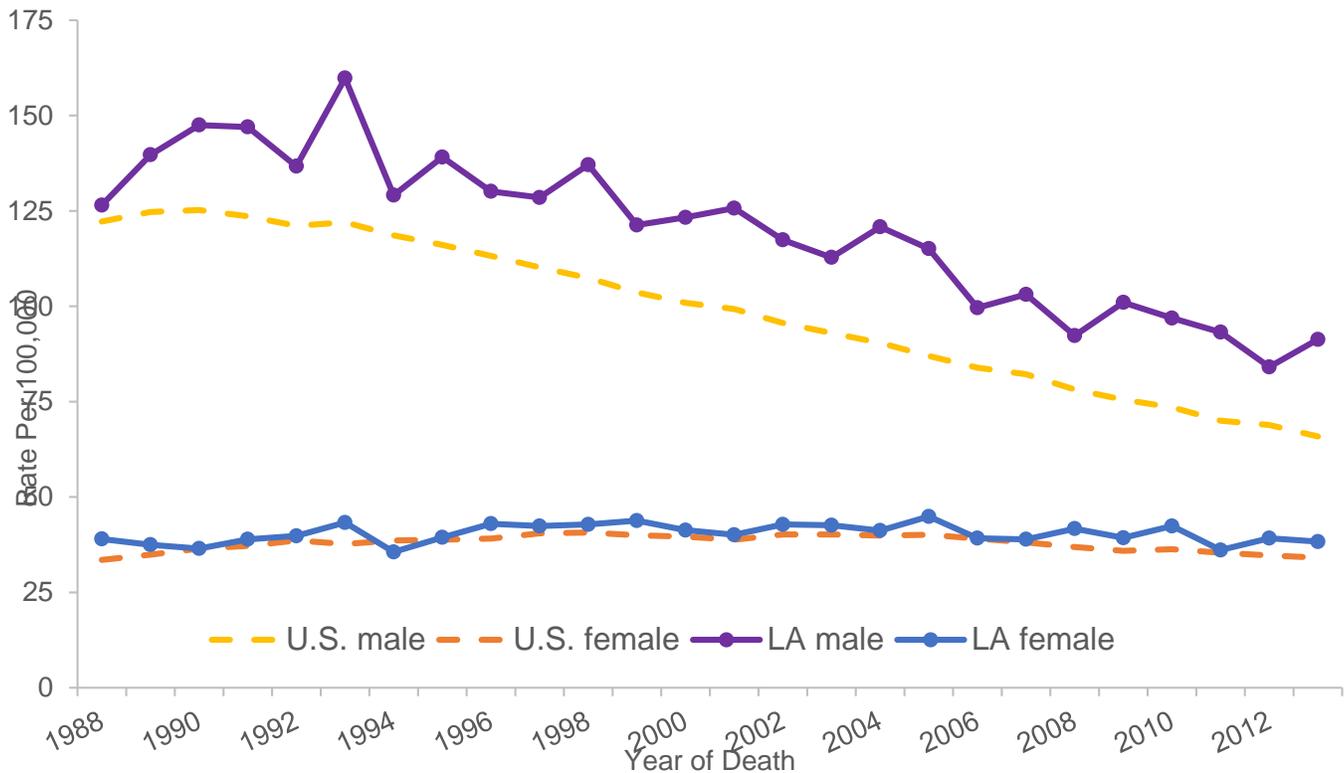


Figure 7 displays the trends mortality rates per 100,000 individuals, from 1988 to 2012 for blacks by sex.²⁹

- Mortality from lung cancer among Louisiana’s black males markedly exceeded that of their U.S. counterparts. Black women in the state had only slightly higher rates than that of the United States.
- Similar to the rates for whites in Louisiana and the United States, males have a marked downward decline, but females’ stays fairly steady across this time period.

²⁹Age-adjusted to the 2000 US standard population.
Mortality data source: National Center of Health Statistics (NCHS).

Figure 8: Trends of Incidence and Mortality Lung Cancer, Louisiana Males, 2001-2013

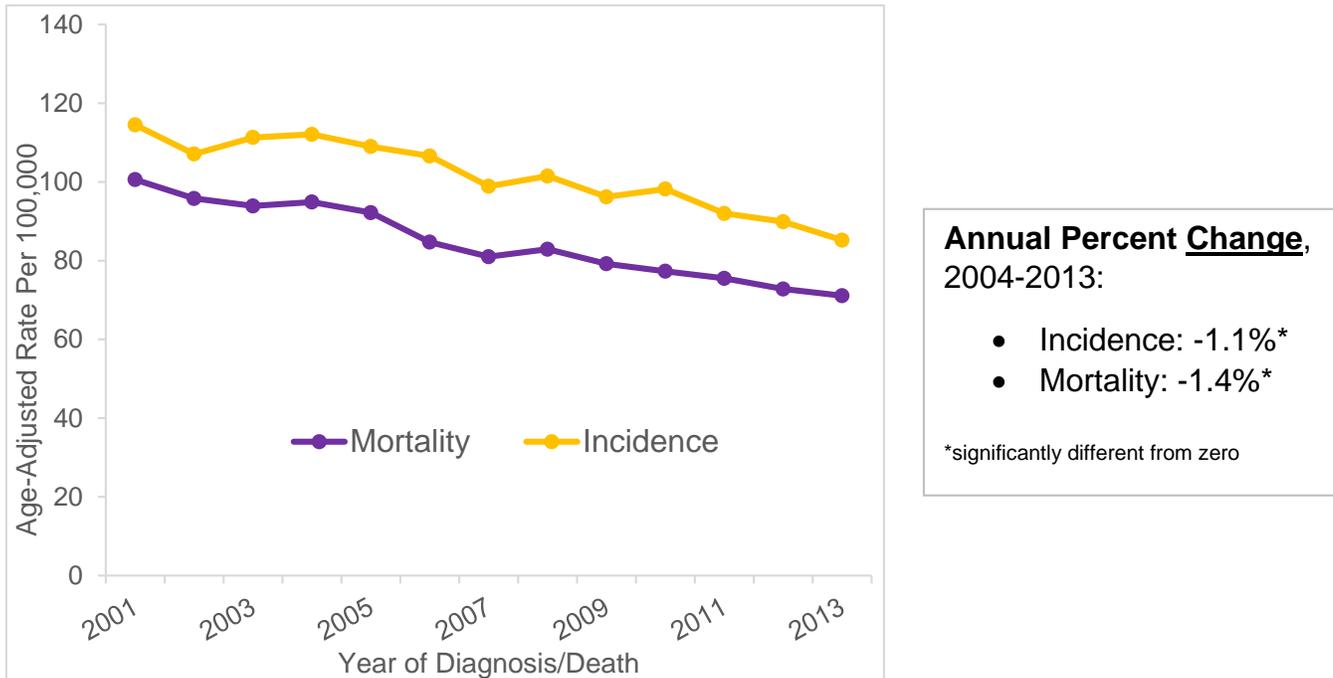


Figure 8 displays two different statistics:

- The graphs on the left show age-adjusted rate trends of both newly diagnosed cases (incidence) and cancer deaths (mortality) per 100,000 Louisiana males, from 2001 to 2013.
 - Both incidence and mortality have clear downward trends.
- The box on the right displays the Annual Percent Change (APC) of age-adjusted trends for Louisiana, 2004-2013.
 - Incidence has decreased by an average of 1.1% per year for the last ten years.
 - Mortality has decreased by an average of 1.4% per year for the last ten years.

Figure 9: 5-Year Relative Survival by Stage and Race Lung Cancer, Louisiana Males, 2009-2013

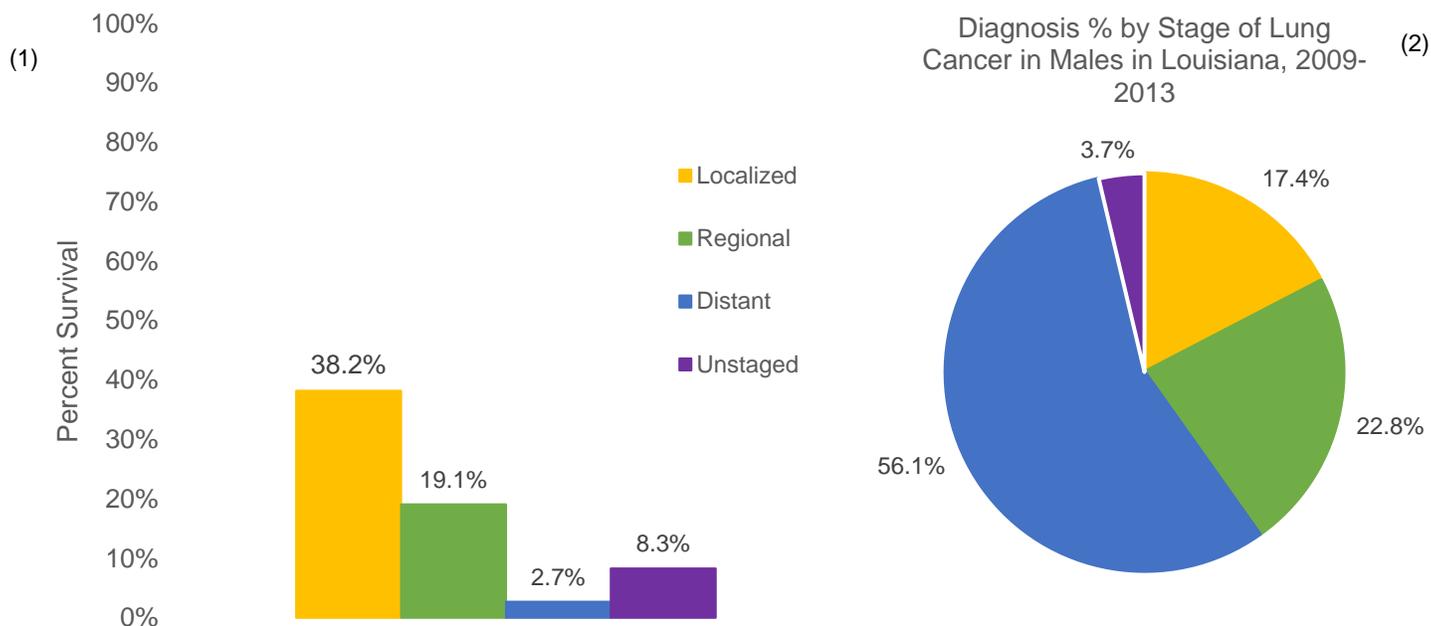


Figure 9 displays (1) on the left, the 5-year relative survival by stage of cancer at diagnosis for Louisiana males, (2) on the upper right, the distribution of stage categories, and (3) on the lower right, all cases combined, relative survival broken out by race.³⁰

- Relative survival compares the death rates of people of similar ages who do not have cancer with those who do have cancer. The difference in survival can be attributed to the cancer only.
- “Unstaged” indicates that data on cancer stage was missing.
- 17.4% of lung cancer was localized at time of diagnosis. This group has the greatest 5-year relative survival rate, at about 38.2%.
- 22.8% of lung cancer was regional stage at time of diagnosis. This group is the second most commonly diagnosed stage, and has a 5-year relative survival rate of about 19.1%.
- Distant diagnoses reduce the prognosis of survival greatly, with a 5-year relative survival rate of about 2.7%. 56.1% of lung cancer was distant staged at diagnosis.

³⁰ The stage distribution is based on SEER Summary Stage 2000.

Figure 10: Trends of Incidence and Mortality Lung Cancer, Louisiana Females, 2001-2013

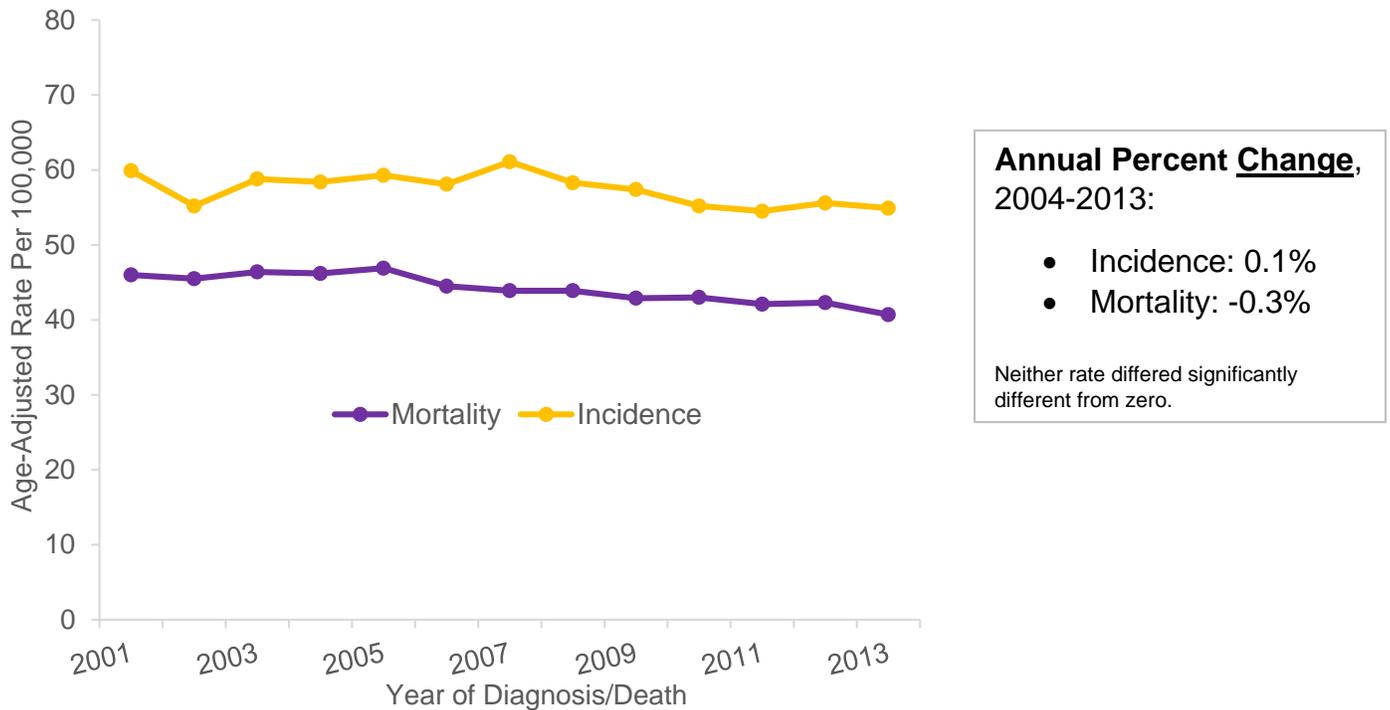


Figure 10 displays two different statistics:

- The graphs on the left show age-adjusted rate trends of newly diagnosed cases (incidence) and cancer deaths (mortality) per 100,000 Louisiana females, from 2001 to 2013.
 - Overall, the rates of both incidence and mortality remain fairly stable over time.
- The box on the right displays the Annual Percent Change (APC) of age-adjusted trends for Louisiana, 2004-2013.
 - Incidence has increased by an average of 0.1% per year for the last ten years.
 - Mortality has decreased by an average of 0.3% per year for the last ten years.

Figure 11: 5-Year Relative Survival by Stage and Race Lung Cancer, Louisiana Females, 2009-2013

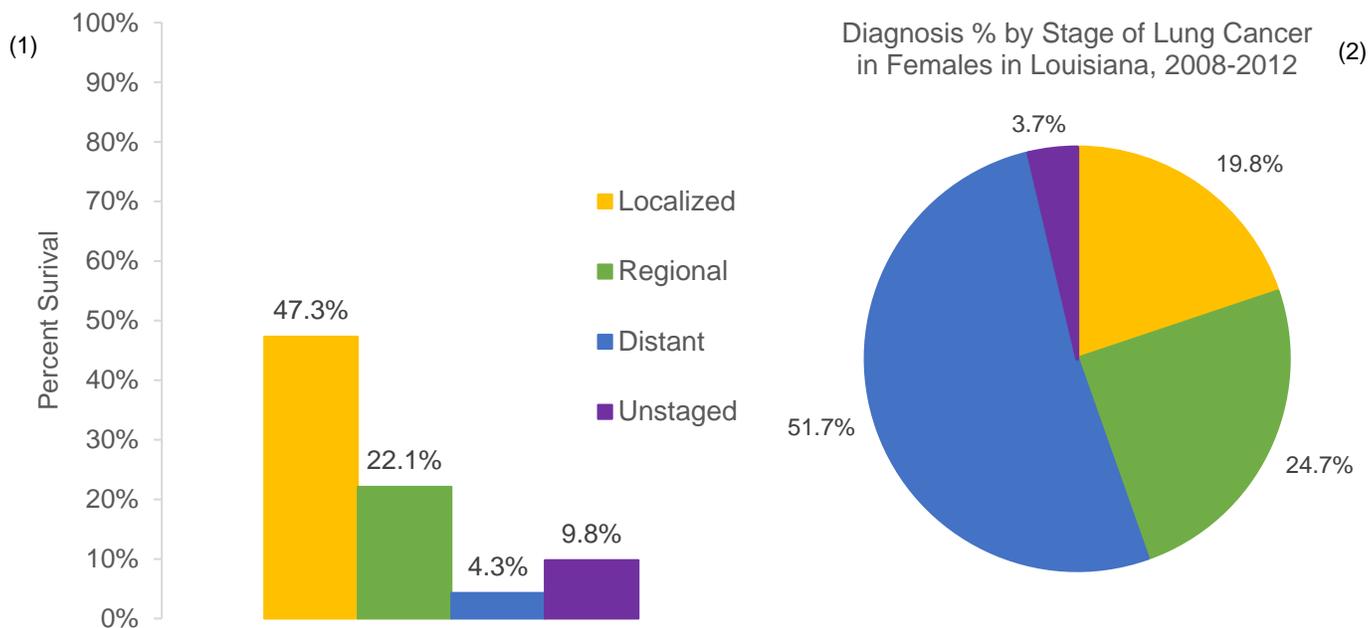


Figure 11 displays (1) on the left, the 5-year relative survival by stage of cancer at diagnosis for Louisiana females, (2) on the upper right, the distribution of stage categories, and (3) on the lower right, all cases combined, relative survival broken out by race.³¹

5-year relative survival

- All races: 16.2%
- Whites: 16.9% (3)
- Blacks: 14.0%

- 19.8% of lung cancers were *localized* at time of diagnosis. This group has a 5-year relative survival rate of about 47.3%.
- 24.7% of lung cancers were *regional* stage at time of diagnosis. This is the second most commonly diagnosed stage, and has a 5-year relative survival rate of about 22.1%.
- *Distant* diagnoses reduce the prognosis of survival greatly, with 5-year relative survival rate of about 4.3%. 51.7% of lung cancers were staged distant at diagnosis.

³¹ Stage distribution is based on SEER Summary Stage 2000.

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