



LUNG CANCER is not a single disease; rather, it is a group of cancers that originate in the lung and associated tissues. Lung cancers are divided into three major types: small cell lung cancer (SCLC), non-small cell lung cancer (NSCLC) and lung carcinoid tumors. Lung cancer accounts for more deaths than any other cancer in men and women.¹ In Indiana, during 2015, approximately 4,932 residents were diagnosed with lung cancer and 3,858 died as a result of the disease (Table 1).²

Table 1. Burden of Invasive Lung Cancer* — Indiana, 2011–2015

	Average number of cases per year (2011–2015)	Rate per 100,000 people† (2011–2015)	Number of cases (2015)	Rate per 100,000 people† (2015)
Indiana Incidence	5,259	70.6	4,932	63.8
Indiana Deaths	3,948	53.3	3,858	50.1

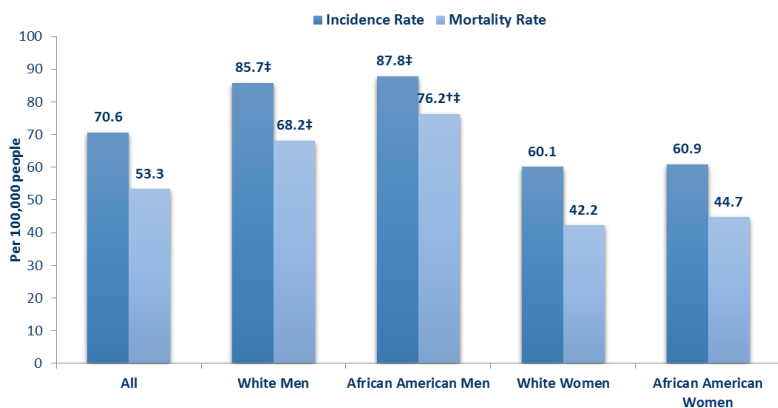
*Includes lung and bronchus cancers combined

†Age-adjusted rates per 100,000 people.

Source: Indiana State Cancer Registry. Accessed on July 7, 2017.

DISPARITIES between lung cancer incidence and mortality rates exist between genders and races. In Indiana, during 2011-2015, white and African American males had significantly higher incidence and mortality rates when compared to females of the same race. In addition, African American males had higher mortality rates when compared to white males (Figure 1).²

Figure 1. Age-adjusted Lung Cancer Incidence and Mortality Rates in Indiana, by Race and Sex, 2011-2015*



*Age-adjusted per 100,000 people.

‡Significantly elevated ($P < .05$) compared to white males

§Rate among males is significantly higher ($P < .05$) than rate among females of the same race

Source: Indiana State Cancer Registry. Accessed on July 7, 2017.

Who Is Most At Risk?

Smokers

- Overall, lung cancer mortality rates are about three times higher for both male and female smokers than for people who never smoked.³
- Over 1 million adults in Indiana still smoke, and Indiana's adult smoking rate (21.1 percent) remains above the national average (median adult smoking rate in the United States: 17.1 percent in 2016).⁵ Cigarette use causes premature death. Quitting smoking before the age of 40 reduces the risk of dying from smoking-related disease by about 90 percent.⁴

Those exposed to secondhand smoke

- According to the *Indiana Cancer Facts and Figures 2015* report, an estimated 50,000 people in the United States die from exposure to secondhand smoke each year.
- The report also indicates that an estimated 1,240 people die each year as a result of secondhand smoke exposure in Indiana.

Those exposed to other cancer-causing agents¹

- Exposure to radon gas is estimated to be the second-leading cause of lung cancer in the United States.
- Exposure to asbestos, radioactive ores such as uranium, inhaled chemicals or minerals such as arsenic, beryllium, cadmium, silica, vinyl chloride, nickel compounds, coal products, mustard gas, and chloromethyl ethers, as well as radiation therapy, air pollution and diesel exhaust.
- Occupational exposures include rubber manufacturing, paving, roofing, painting and chimney sweeping.

Males²

- During 2011-2015, Indiana males, compared to females, had a 43 percent greater lung cancer incidence rate and a 62 percent greater mortality rate. This is mainly because a higher percentage of males have been smokers compared to females.
- In Indiana, during 2016, 23.6 percent of adult males and 18.8 percent of adult females reported being current smokers.⁴
- However, national data indicates the gap between men and women is narrowing. Women's disease risks from smoking have risen sharply over the last 50 years nationally and are now equal to men's for lung cancer.³



Can Lung Cancer Be Detected Early?

- ❑ The United States Preventive Services Task Force recommends annual screening for lung cancer with low-dose computed tomography in adults aged 55 to 80 years who have a 30-pack-per-year smoking history and currently smoke, or who have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years, or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

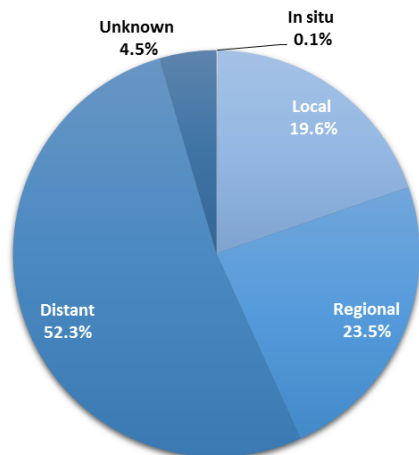
Common Signs and Symptoms of Lung Cancer

- ❑ A cough that does not go away or gets worse
- ❑ Coughing up blood or sputum streaked with blood
- ❑ Chest pain that is worse with deep breathing, coughing or laughing
- ❑ Voice changes or hoarseness
- ❑ Weight loss and loss of appetite
- ❑ Shortness of breath or feeling tired or weak
- ❑ Recurrent pneumonia or bronchitis
- ❑ New onset of wheezing

What Factors Influence Lung Cancer Survival?

- ❑ Lung cancer is often diagnosed at a later stage, which negatively impacts a person's odds of survival. The five-year survival rate is highest (55 percent) if the lung cancer is diagnosed when it is confined entirely within the lung (i.e., localized).¹ However, in Indiana, during 2011-2015, only 19.6 percent of lung cancers were diagnosed during this stage (Figure 2).
- ❑ The five-year survival rate is different for SCLC, NSCLC and lung carcinoid tumor. For SCLC, the five-year survival rate is 7 percent. The five-year survival rate for NSCLC is higher at 21 percent.¹ According to the American Cancer Society, the five-year survival rate for lung carcinoid tumor varies by type and stage. In general, the five-year survival rate ranges from 93 percent for Stage I diagnoses to 57 percent for Stage IV diagnoses.
- ❑ Treatment options are determined by the type (SCLC, NSCLC or lung carcinoid tumor) and stage of cancer and include surgery, radiation therapy, chemotherapy and targeted therapies. For localized cancers, surgery is usually the treatment of choice. Because the disease has usually spread by the time it is discovered, radiation therapy and chemotherapy are often used, sometimes in combination with surgery.

Figure 2. Percent of Lung Cancer Cases Diagnosed During Each Stage*—Indiana, 2011–2015



*Includes invasive and in situ cases.

Source: Indiana State Cancer Registry. Accessed on July 7, 2017.

GET INVOLVED: Join the Indiana Cancer Consortium (ICC)

- ❑ The ICC is a statewide network of over 100 agencies, including the Indiana State Department of Health.
- ❑ ICC seeks to reduce the cancer burden in Indiana through the development, implementation and evaluation of a comprehensive plan that addresses cancer across the continuum from prevention through end of life.
- ❑ Become a member at www.IndianaCancer.org.

References

1. American Cancer Society. Cancer Facts & Figures 2017. Atlanta: American Cancer Society; 2016.
2. Indiana State Department of Health. Indiana State Cancer Registry Statistics Report Generator. Accessed online at <http://www.in.gov/isdh/24360.htm> on October 23, 2017.
3. CDC, Tobacco-Related Mortality. CDC; 2016. Accessed at https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/index.htm on June 27, 2017.
4. U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.
5. Indiana State Department of Health, Data Analysis Team. (2017). *Indiana Behavioral Risk Factor Surveillance System, 2016*.

Community Resources

- ❑ To get help with tobacco cessation, call the [Indiana Tobacco Quitline](http://www.in.gov/quitline/) at 1-800-QUIT-NOW (1-800-784-8669) or visit www.in.gov/quitline/.
- ❑ To learn more about [Indiana's Smoke Free Air Law](http://www.BreatheIndiana.com), visit www.BreatheIndiana.com.
- ❑ To view the *Tips from a Former Smoker* public service announcements, visit <http://www.cdc.gov/tobacco/campaign/tips/>.
- ❑ Visit www.surgeongeneral.gov/initiatives/tobacco/index.html to read *The Health Consequences of Smoking — 50 Years of Progress. A Report of the Surgeon General*.
- ❑ To learn more about the lung cancer burden in Indiana, refer to the [Indiana Cancer Consortium Lung Cancer Toolkit](http://www.IndianaCancer.org) at www.IndianaCancer.org.