



## What is the Impact on Hoosiers?

**Table 8. Burden of Invasive Lung Cancer\*—Indiana, 2004–2008**

	Average number of cases per year (2004–2008)	Rate per 100,000 people <sup>†</sup> (2004–2008)	Number of cases (2008)	Rate per 100,000 people <sup>†</sup> (2008)
<b>Indiana Incidence</b>	5,183	80.0	5,240	78.0
<b>Indiana Deaths</b>	3,986	61.6	4,166	62.1

\*Includes lung and bronchus cancers combined; †Age-adjusted

Source: Indiana State Cancer Registry

# Lung Cancer

## Bottom Line

Lung cancer is the leading cause of cancer deaths in the United States and Indiana, killing over 150,000 Americans and approximately 4,000 Indiana residents every year. If all tobacco smoking was stopped, the occurrence of lung cancer would decrease by an estimated 90%;<sup>1</sup> however, in Indiana, 21% of adults continue to smoke tobacco, placing them at great risk for developing lung and other types of cancer.<sup>2</sup>

## Who Most Often Gets Lung Cancer?

- **Smokers.** Smoking accounts for 87% of lung cancer deaths and at least 30% of all cancer deaths. Lung cancer mortality rates are about 23 times higher for current male smokers and 13 times higher for current female smokers compared to people who have never smoked.<sup>3</sup> Adult smoking rates among Hoosiers decreased from 26.9% in 2000 to 21.2% in 2010, leading to approximately 200,000 fewer smokers [Figure 22].<sup>2</sup> However, despite this historically low rate, just over 1 million adults in Indiana still smoke and Indiana's adult smoking rate remains among the highest in the nation (median adult smoking rate in the United States: 17.2% in 2010).<sup>4</sup>
- **Those exposed to secondhand smoke.** Each year, an estimated 50,000 American and 1,240 Hoosier nonsmokers die from exposure to secondhand smoke (smoke breathed in involuntarily by someone who is not smoking).<sup>3</sup>
- **Those exposed to other cancer-causing agents.** Exposure to asbestos, radon, arsenic, talc, vinyl chloride, coal products, and radioactive ores like uranium can increase people's risk for developing lung cancer, especially if they also smoke tobacco.
- **Males, especially African American males.** During 2004–2008, Indiana males, compared to females, had a 60% greater lung cancer incidence rate (102.3 versus 64.1 cases per 100,000 people) and a 75% greater mortality rate (82.4 versus 47 deaths per 100,000 people). This is mainly because a higher percentage of males have been smokers compared to females. In 2010, 23.3% of adult males and 19.3% of adult females reported being current smokers.<sup>2</sup> African American males, in Indiana, have approximately 17% greater incidence and 20% greater lung cancer mortality rates than do white males [Figure 23].

## Be Aware! Common Signs and Symptoms of Lung Cancer

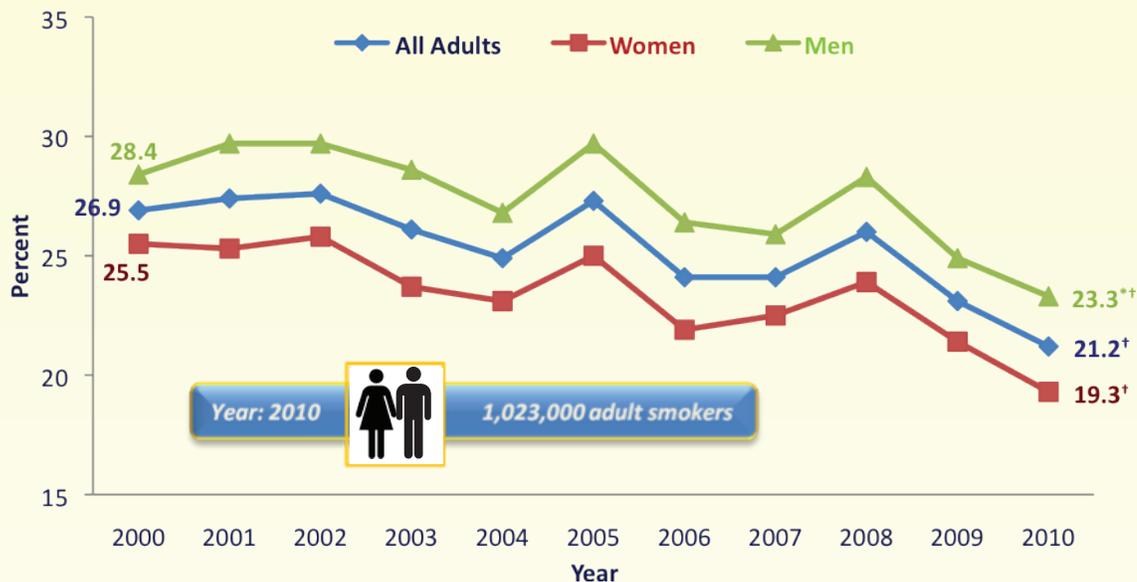
- Persistent cough
- Sputum streaked with blood
- Chest pain
- Voice changes
- Recurrent pneumonia or bronchitis

## Take Charge!—What You Can Do to Help Prevent Lung Cancer

- Be smoke-free
  - Quitting tobacco smoking substantially decreases your risk of developing cancer and cardiovascular disease. Smokers who quit smoking, regardless of age, live longer than people who continue to smoke.<sup>3</sup>
  - Visit [www.in.gov/quitline](http://www.in.gov/quitline) for free, evidence-based smoking cessation assistance
- Avoid all secondhand smoke exposure

# Lung Cancer

**Figure 22. Percent of Indiana Residents, Age 18 Years and Older, who Reported Being Current Smokers—Indiana, 2000–2010**

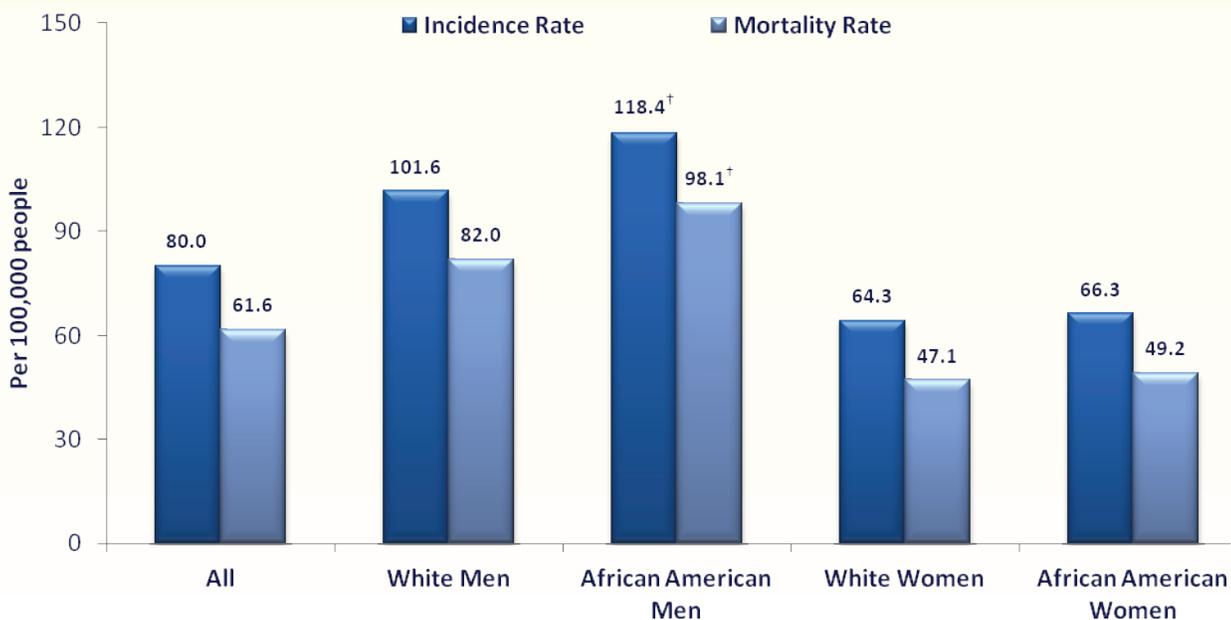


\*Significantly higher ( $P < .05$ ) compared to women in 2010

<sup>†</sup>Significantly lower ( $P < .05$ ) compared to 2000

Source: Behavior Risk Factor Surveillance System

**Figure 23. Lung Cancer Incidence and Mortality (Death) Rates by Race and Sex\*—Indiana, 2004–2008**



\*Age-adjusted rates for lung and bronchus cancers combined

<sup>†</sup>Significantly elevated ( $P < .05$ ) compared to white males and all females

Source: Indiana State Cancer Registry

# Lung Cancer

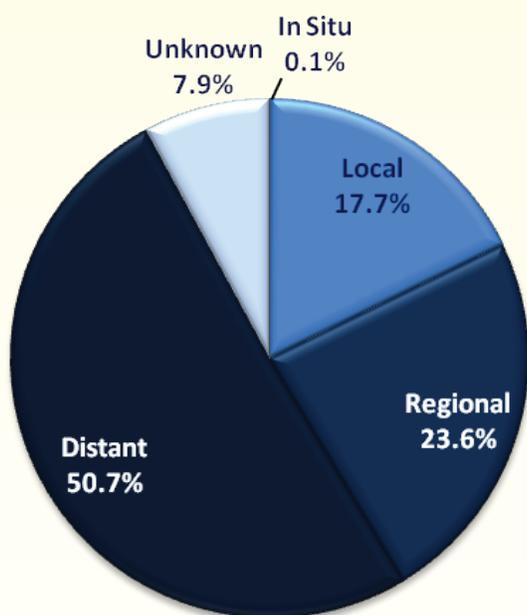
## Can Lung Cancer Be Detected Early?—see the “Be Aware” box for additional information

- Early detection has not been shown to be effective in reducing mortality from lung cancer. Although recent advancements in diagnostic testing, such as low dose spiral computed tomography (spinal CT) scans and molecular markers in sputum, have shown more promising outcomes and are being evaluated further for possible risks and their effectiveness.

## 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 (52%) if the lung cancer is diagnosed when it is confined entirely within the lung (i.e., localized);<sup>5</sup> however, in Indiana, during 2004–2008, only 18% of lung cancers were diagnosed during this stage [Figure 24].
- The one-year relative survival for lung cancer increased from 35% during 1975–1979 to 42% during 2002–2005, largely because of improvements in surgical techniques and combined therapies. However, the five-year survival rate for all stages combined is currently only 16%. The five-year survival for small cell lung cancer (6%) is lower than that for non-small cell lung cancer (17%).<sup>6</sup>
- Treatment options are determined by the type (small cell or non-small cell) and stage of cancer and include surgery, radiation therapy, chemotherapy, and targeted therapies such as bevacizumab (Avastin) and erlotinib (Tarceva). 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 24. Percent of Lung Cancer Cases Diagnosed During Each Stage\*—Indiana, 2004–2008**



During 2004–2008, of the 25,928 Indiana residents who received a diagnosis of in situ or invasive lung cancer, 4,607 (17.8%) were diagnosed in the in situ or local stage, 19,267 (74.3%) were diagnosed in the regional or distant stage, and 2,054 (7.9%) had unknown staging.

\*Includes invasive and in situ cases of lung and bronchus cancers combined  
Source: Indiana State Cancer Registry

## Take Charge!—What the Community Can Do to Help Prevent Lung Cancer

- Implement smoke-free air policies and higher taxes on tobacco products
- Sustain tobacco control program funding to help reduce smoking rates and lessen the burden of tobacco use on Indiana—annually, tobacco use costs Indiana over \$2 billion in health care costs, including approximately \$487 million in Medicaid payments alone
- Support the continued adoption of smoke-free workplaces—the United States Surgeon General has concluded that smoke-free workplace policies are the only effective way to eliminate exposure to secondhand smoke in the workplace and lead to less smoking among workers<sup>7</sup>
- Support health care provider outreach efforts that help decrease tobacco consumption and increase quit attempts

## References

- <sup>1</sup> Centers for Disease Control and Prevention. *The Health Consequences of Smoking: A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004. Access at [www.cdc.gov/tobacco/data\\_statistics/sgr/2004/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2004/index.htm) on Dec 18, 2011.
- <sup>2</sup> Indiana Behavioral Risk Factor Surveillance System. Accessed at [www.in.gov/isdh/25194.htm](http://www.in.gov/isdh/25194.htm) on Nov 23, 2011
- <sup>3</sup> Centers for Disease Control and Prevention. Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses—United States, 2000–2004. *Morbidity and Mortality Weekly Report*. 2008;57(45):1226–8. Access at [www.cdc.gov/mmwr/preview/mmwrhtml/mm5745a3.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5745a3.htm) on Dec 18, 2011.
- <sup>4</sup> Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2010. Accessed at [apps.nccd.cdc.gov/BRFSS/](http://apps.nccd.cdc.gov/BRFSS/) on Nov 23, 2011.
- <sup>5</sup> National Cancer Institute. Surveillance, Epidemiology and End Results (SEER) Program. Accessed at [seer.cancer.gov](http://seer.cancer.gov) on Oct 24, 2011.
- <sup>6</sup> American Cancer Society. *Cancer Facts & Figures 2011*. Atlanta, GA. 2011. Accessed at [www.cancer.org/Research/CancerFactsFigures/index](http://www.cancer.org/Research/CancerFactsFigures/index) on Nov 23, 2011.
- <sup>7</sup> Centers for Disease Control and Prevention. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006. Access at [www.surgeongeneral.gov/library/secondhandsmoke/](http://www.surgeongeneral.gov/library/secondhandsmoke/) on Dec 21, 2011.