



IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

Cancer in Illinois *2014*





Who We Are

The Illinois State Cancer Registry is the only source of population-based cancer information in Illinois.

Cancer registry staff have 153 years of combined experience as certified tumor registrars.

What We Do

The Illinois State Cancer Registry is a program within the Illinois Department of Public Health's Division of Epidemiologic Studies and was created in 1986 by the Illinois Health and Hazardous Substances Registry Act. The cancer registry has a staff of 12, plus a registry manager.

The registry collects information on cancer cases diagnosed or treated in Illinois. Hospitals, ambulatory surgical treatment centers, non-hospital affiliated radiation therapy treatment centers, independent pathology labs and physicians are required to report to the registry. Eleven other state cancer registries voluntarily report cancer patient data for Illinois residents who are diagnosed and/or treated out of state.

Cancer information is collected by certified tumor registrars who have successfully completed the training and passed the examination required by the National Cancer Registrar's Association. Ongoing continuing education is required to maintain certification. The registry has staff with many years of service as cancer registrars. These legacy employees are one reason the Illinois State Cancer Registry has achieved "Gold Certification," the highest level, from the North American Association of Central Cancer Registries for the past 16 years.

All information about the patient and the facility that reported the cancer is kept confidential.

What is cancer incidence?

A **cancer incidence rate** is the number of new cancers of a specific site/type occurring in a specified population during a year, usually expressed as the number of cancers per 100,000 population at risk. That is:

$$\text{Incidence rate} = (\text{New cancers/Population}) \times 100,000$$

The numerator of the incidence rate is the number of new cancers; the denominator is the size of the population. The number of new cancers may include multiple primary cancers occurring in one patient. The primary site reported is the site of origin and not the metastatic site. In general, the incidence rate would not include recurrences. The population used depends on the rate to be calculated. For cancer sites that occur in only one sex, the sex-specific population (e.g., females for cervical cancer) is used.

An age-adjusted rate is a weighted average of the age-specific rates, where the weights are the proportions of persons in the corresponding age groups of a standard population. The potential confounding effect of age is reduced when comparing age-adjusted rates computed using the same standard population.

— www.cancer.gov

What is cancer mortality?

A **cancer mortality rate** is the number of deaths, with cancer as the underlying cause of death, occurring in a specified population during a year. Cancer mortality is usually expressed as the number of deaths due to cancer per 100,000 population. That is:

$$\text{Mortality Rate} = (\text{Cancer Deaths/Population}) \times 100,000$$

The numerator of the mortality rate is the number of deaths; the denominator is the size of the population. The population used depends on the rate to be calculated. For cancer sites that occur in only one sex, the sex-specific population (e.g., females for cervical cancer) is used. The mortality rate can be computed for a given cancer site or for all cancers combined.

— www.cancer.gov

For a cancer case to be complete it must have information about the person (where they were born, age, where they live), information on the type of cancer and its treatment.

To determine a cancer rate, researchers must have the population characteristics of the area. This is usually obtained from the U.S. Census.



Why is it important to collect cancer information?

The Illinois State Cancer Registry is one of 50 state central cancer registries in the United States. All central cancer registries share the same common activities and purposes. Most central cancer registries in the U.S. funnel data (but not personal identifiers) into a national cancer data base maintained by the U.S. Centers for Disease Control and Prevention.

Cancer data collection by central cancer registries also is called cancer surveillance. Cancer data are used to “see” the impact of cancer, trends in various populations, patterns of occurrence and much more.

- Doctors and researchers use cancer data to learn more about the causes of cancer.
- Doctors and researchers use cancer data to learn how to detect cancers earlier, when they are more treatable.
- Cancer specialists make treatment choices based on accurate cancer data.
- Cancer data may point to environmental risk factors or high risk behaviors.
- Cancer data may be used to make important public health decisions about where to direct funds or where to implement screening programs.
- Cancer data may be used to show whether programs aimed at modifying risky behavior or increasing screening for people who are at risk are effective.
- Cancer data may be used to advance clinical, epidemiologic and health services research
- Cancer data may be used to determine what present and future resources are needed in a specific area; these could be medical resources, such as physicians, cancer specialists, hospitals or other types of social services, or support services such as patient transport.

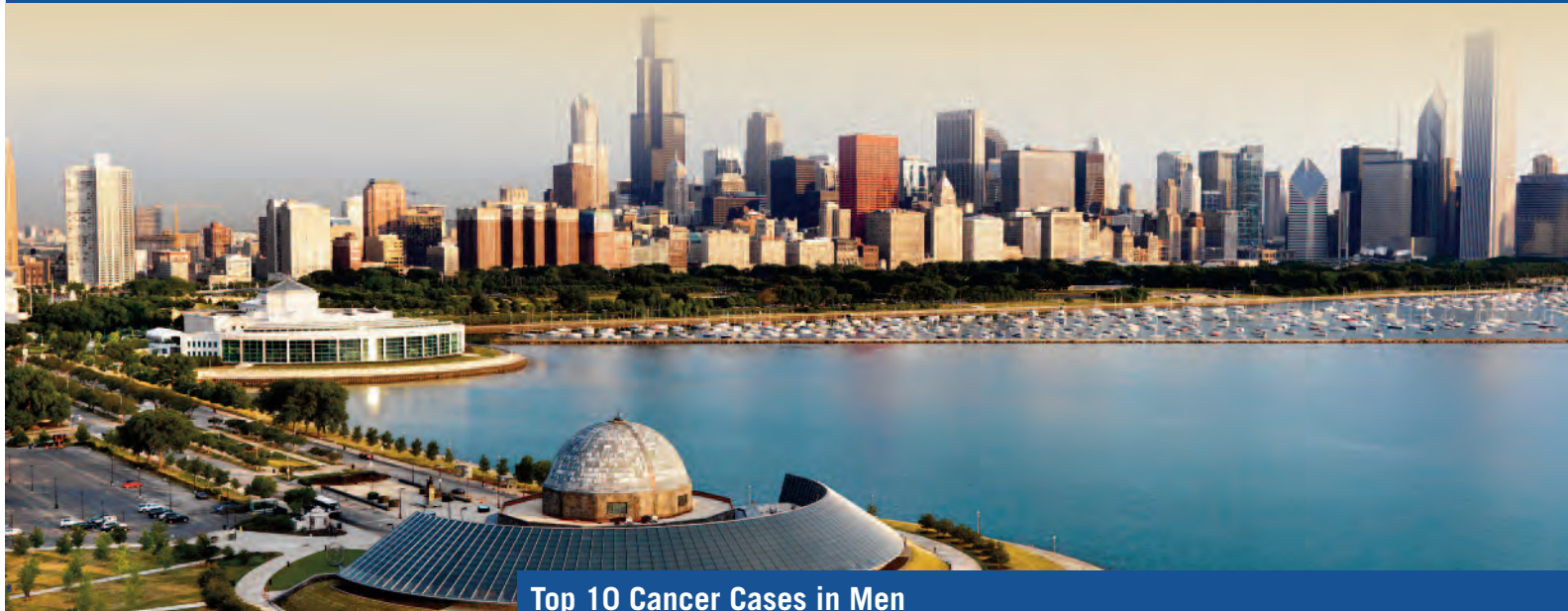


Every day in Illinois.....

- **179** people are diagnosed with cancer
- **26** women are diagnosed with breast cancer
- **23** men are diagnosed with prostate cancer
- **17** people are diagnosed with colorectal cancer
- **25** people are diagnosed with lung cancer

Cancer is the second leading cause of death among Americans.

Cancer surveillance activities have been used to develop effective strategies to reduce cancer deaths and strategies for preventing new cases of cancer that include behavioral and environmental changes for some cancer types.



Epidemiology is the study of the distribution and causes of diseases in human populations. It is concerned with the frequency and type of illness in groups of people, not individuals.

Central cancer registries collect data on all cancer cases within a defined population, such as a state or region.

Top 10 Cancer Cases in Men

Type of Cancer	Rate per 100,000	Number of Cases	Percent of Total
Prostate	130.0	8,427	25.8%
Lung and Bronchus	80.4	4,806	14.7%
Colon and Rectum	53.9	3,280	10.0%
Urinary Bladder	36.9	2,143	6.6%
Kidney and Renal Pelvis	22.9	1,457	4.5%
Non-Hodgkin Lymphoma	22.8	1,377	4.2%
Melanoma of the Skin	22.2	1,351	4.1%
Oral Cavity and Pharynx	18.2	1,199	3.7%
Leukemia	16.7	990	3.0%
Pancreas	14.6	882	2.7%

Illinois Department of Public Health, Illinois State Cancer Registry, public data file, data as of November 2013.

Top 10 Cancer Cases in Women

Type of Cancer	Rate per 100,000	Number of Cases	Percent of Total
Breast	129.7	9,581	29.4%
Lung and Bronchus	56.9	4,337	13.3%
Colon and Rectum	39.7	3,076	9.4%
Corpus and Uterus	28.8	2,200	6.7%
Thyroid	20.6	1,407	4.3%
Non-Hodgkin Lymphoma	16.3	1,232	3.8%
Melanoma of the Skin	15.0	1,059	3.2%
Kidney and Renal Pelvis	12.3	913	2.8%
Pancreas	11.2	870	2.7%
Ovary	11.7	863	2.6%

Illinois Department of Public Health, Illinois State Cancer Registry, public data file, data as of November 2013.

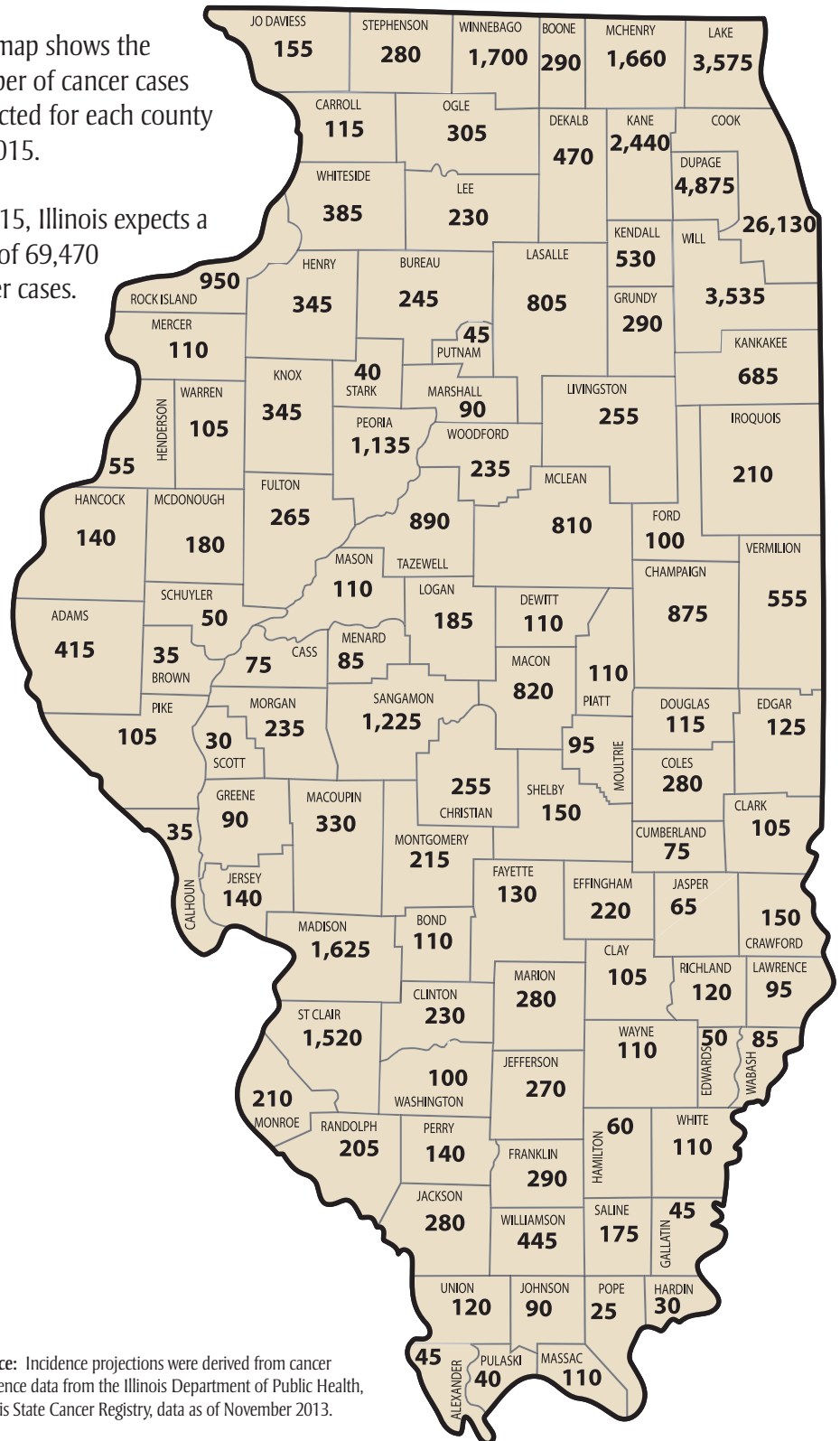
Cancer Projections

This map shows the number of cancer cases projected for each county for 2015.

In 2015, Illinois expects a total of 69,470 cancer cases.

Cancer data in Illinois is collected in a standard format so it can be compiled with other state registries to form a national database of cancer data.

Each year Illinois cancer registry staff process about 92,000 cancer reports for about 65,000 cancer patients.



Source: Incidence projections were derived from cancer incidence data from the Illinois Department of Public Health, Illinois State Cancer Registry, data as of November 2013.

Smoking-Related Cancer

Why are cigarettes so bad for me?

Tobacco smoke is a toxic mix of more than 7,000 chemicals. Hundreds of these chemicals are toxic. About 70 of these chemicals can cause cancer. When these chemicals get into your body, they cause damage. Your body must fight to heal the damage each time you smoke. Over time, the damage can lead to disease and to death.

How does smoking cause cancer?

Once tobacco has damaged cells, they can grow uncontrollably as cancer. Because cells are tiny, years sometimes pass before you find a lump or your doctor sees a tumor on a scan.

DNA is the cell's "instruction manual." It controls a cell's normal growth and function. When DNA is damaged, a cell can begin growing out of control and create a cancer tumor. This happens because poisons in tobacco smoke can destroy or change the cell's instructions. Every cigarette increases the risk for cancer and the next cigarette you smoke might damage your DNA in a way that leads to cancer.

Normally, your immune system helps to protect you from cancer. It sends out tumor fighters to attack and kill cancer cells. However, new research shows the poisons in cigarette smoke weaken the tumor fighters. When this happens, cells keep growing without being stopped. For this reason, smoking can cause cancer and then block your body from fighting it.

Source: A Report of the Surgeon General How Tobacco Smoke Causes Disease... what it means to you



Cigarette smoking is the major risk factor for lung cancer. The risk of developing lung cancer for a current smoker of one pack per day for 40 years is approximately 20 times that of someone who has never smoked. Other factors that increase the risk of developing lung cancer in smokers include the extent of smoking and exposure to other cancer-causing factors like radon or asbestos.

How does smoking affect your life?

Annual smoking-attributable economic costs in the United States estimated for the years 2009–2012 were more than \$289 billion, including:

- At least \$133 billion for direct medical care of adults and more than \$156 billion in lost productivity
- \$5.6 billion (2006 data) for lost productivity due to exposure to secondhand smoke

The annual cost of tobacco use in Illinois is estimated to be in excess of \$5.4 billion for direct health care costs (does not include lost productivity), with approximately \$2.2 billion covered by Medicaid.*

Cigarette smokers die at younger ages than non-smokers. If you are a man and smoke, studies have shown your lifespan may be shortened by around 13 years; if you are a woman and smoke, your lifespan may be shorter by more than 14 years.

**Tobacco Free Kids Fact Sheets*

Smoking affects your health in a variety of ways. It causes many diseases, such as chronic bronchitis, emphysema, heart attacks, strokes and cancer. Smoking-related illness affects your ability to breathe, walk, work or play.

Who smokes?

In the United States, about 42 million adults were cigarette smokers in 2012. In Illinois, about 1.8 million people were smoking in 2012. This also is about 18 percent of adults so Illinois is similar to the United States in smoking behavior. The table shows the percentage of U.S. adults who smoke broken down by race/ethnicity.

Percentage of U.S. Adults who Smoke by Race/Ethnicity	
Race/Ethnicity Category	Percentage
Whites	19.7
African Americans	18.1
Hispanics	12.5
American Indians/Alaska Natives	21.8
Asian Americans	10.7
Multi-racial People	26.1

<http://www.cdc.gov/tobacco/campaign/tips/resources/data/cigarette-smoking-in-united-states.html>

What about kids and smoking?

Nationally, 14 percent of high school students smoked cigarettes in 2012. Another 13 percent smoked cigars. Little cigars are now packaged just like cigarettes, but cost less and can have chocolate, fruit and other candy flavors added. Young people find these attractive.

For middle school students, the most recent survey from 2013 shows that, in the U.S., about 4 percent smoked cigarettes and nearly 3 percent smoked cigars. White and Hispanic students were more likely to smoke cigarettes in both high schools and middle schools. Black students were more likely to smoke cigars.

In 2013,



- 12 percent of Illinois high school students smoked cigarettes
- 3 percent of Illinois middle school students smoked cigarettes
- 10 percent of Illinois high school students smoked cigars
- 2 percent of Illinois middle school students smoked cigars
- 9.4 percent of Illinois high school students used pipes
- 4.6 percent of U.S. high school students used pipes
- 17 percent of Illinois high school students tried their first cigarette before the age of 11
- 30 percent of Illinois middle school students tried their first cigarette before the age of 11
- 6 percent of Illinois high school students used e-cigarettes
- 1 percent of Illinois middle school students used e-cigarettes
- Between grades 6 and 12 there is more than a 19-fold increase in the use of e-cigarettes

Source: National Youth Tobacco Survey 2012 and Illinois Youth Tobacco Survey 2013

What about e-cigarettes?

Electronic cigarettes (e-cigarettes) are battery operated products designed to turn nicotine and other chemicals into a vapor. You then inhale the vapor. These products are often made to look like cigarettes, cigars, pipes or pens. Because clinical studies about the safety of e-cigarettes have not been submitted to the U.S. Food and Drug Administration (FDA), and because the FDA currently does not regulate e-cigarettes, you have no way of knowing:

- If they are safe
- Which chemicals they contain
- How much nicotine you are inhaling

E-cigarettes are electronic nicotine delivery systems. No matter how it is delivered, nicotine is a highly addictive substance. E-cigarette manufacturers also add flavorings, such as strawberry, vanilla, cherry, chocolate, grape, pina colada and cola. These flavorings make e-cigarettes very attractive to teenagers. Current e-cigarette use among students more than doubled between 2011 and 2012. There are many unknowns with e-cigarettes, including the unknown health effects of long-term use. There are also no manufacturing standards for e-cigarettes.

Source: Morbidity and Mortality Weekly Report 62(35): 729-730

Smoking can cause cancer almost anywhere in your body



More than lung cancer

Cigarette smoking is responsible for at least 30 percent of all cancer deaths. Everyone knows smoking causes lung cancer, but did you know smoking also is linked with an increased risk of cancers of the larynx (voice box), oral cavity (mouth, tongue and lips), nose and sinuses, pharynx (throat), esophagus (the tube that connects the throat to the stomach), stomach, pancreas, cervix, kidney, bladder, ovary, the colon and/or the rectum, and acute myeloid leukemia?

Smoking also causes many other deadly health problems, such as heart disease, aneurysms, bronchitis, emphysema and stroke.

For women, smoking is especially harmful to a woman's reproductive health and is linked with reduced fertility, a higher risk of miscarriage, early delivery (premature birth) and stillbirth, low birth-weight in infants, and a higher risk of birth defects and sudden infant death syndrome. Source: Cancer Facts & Figures 2014

In 2014, it is estimated that 29,120 Illinoisans will be newly diagnosed and 14,980 will die from cancers of the oral cavity and pharynx, esophagus, stomach, colon and rectum, liver, pancreas, larynx, lung and bronchus, cervix, bladder, kidney and renal pelvis, and acute myeloid leukemia. Between 2006 and 2010, these cancer sites accounted for about 44 percent of newly diagnosed cancers and 60 percent of cancer deaths.

Lung cancer is the most well-known cancer site related to smoking. Smoking is estimated to account for approximately 90 percent of lung cancers. The risk of developing lung cancer, if you currently smoke one pack a day for 40 years, is approximately 20 times that of someone who has never smoked.

Lung cancer in its early stages and sometimes even in later stages may not cause any symptoms. About 10 percent of patients don't have any symptoms prior to their cancer diagnosis. Early symptoms may include frequent bouts of pneumonia, chronic cough, weight loss and loss of appetite (difficulty swallowing), fever without a known reason, shortness of breath, chest pain, wheezing, hoarseness and swelling of neck or face.

Chronic diseases causally linked to smoking

- Stroke
- Blindness, cataracts, age-related macular degeneration
- Congenital defects—maternal smoking; orofacial clefts
- Periodontitis
- Aortic aneurysm, early abdominal aortic atherosclerosis in young adults
- Coronary heart disease
- Pneumonia
- Atherosclerotic peripheral vascular disease
- Chronic obstructive pulmonary disease, tuberculosis, asthma and other respiratory effects
- Diabetes
- Reproductive effects in women (including reduced fertility)
- Hip fractures
- Ectopic pregnancy
- Male sexual function—erectile dysfunction
- Rheumatoid arthritis
- Immune function
- Overall diminished health

Source: USDHHS 2004, 2006, 2012

Note: The conditions in red are diseases causally linked recently to smoking in The Health Consequences of Smoking – 50 Years of Progress A Report of the Surgeon General 2014.

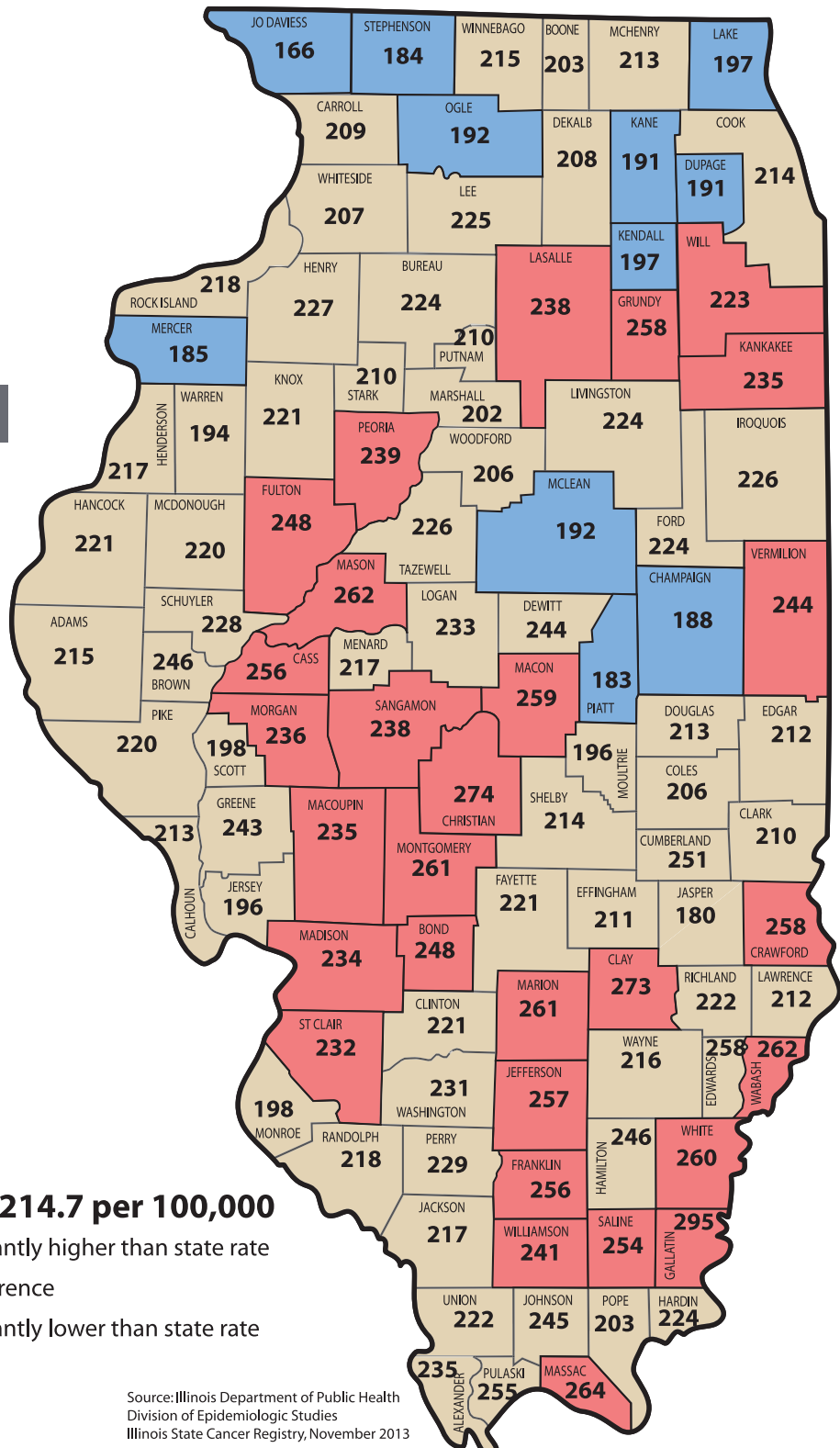
Smoking-Related Cancer Cases in Illinois

Illinois County Map – Incidence Rates

The Illinois age-adjusted smoking-related incidence rate for both genders and all races from 2007-2011 was 214.7 cases per 100,000.

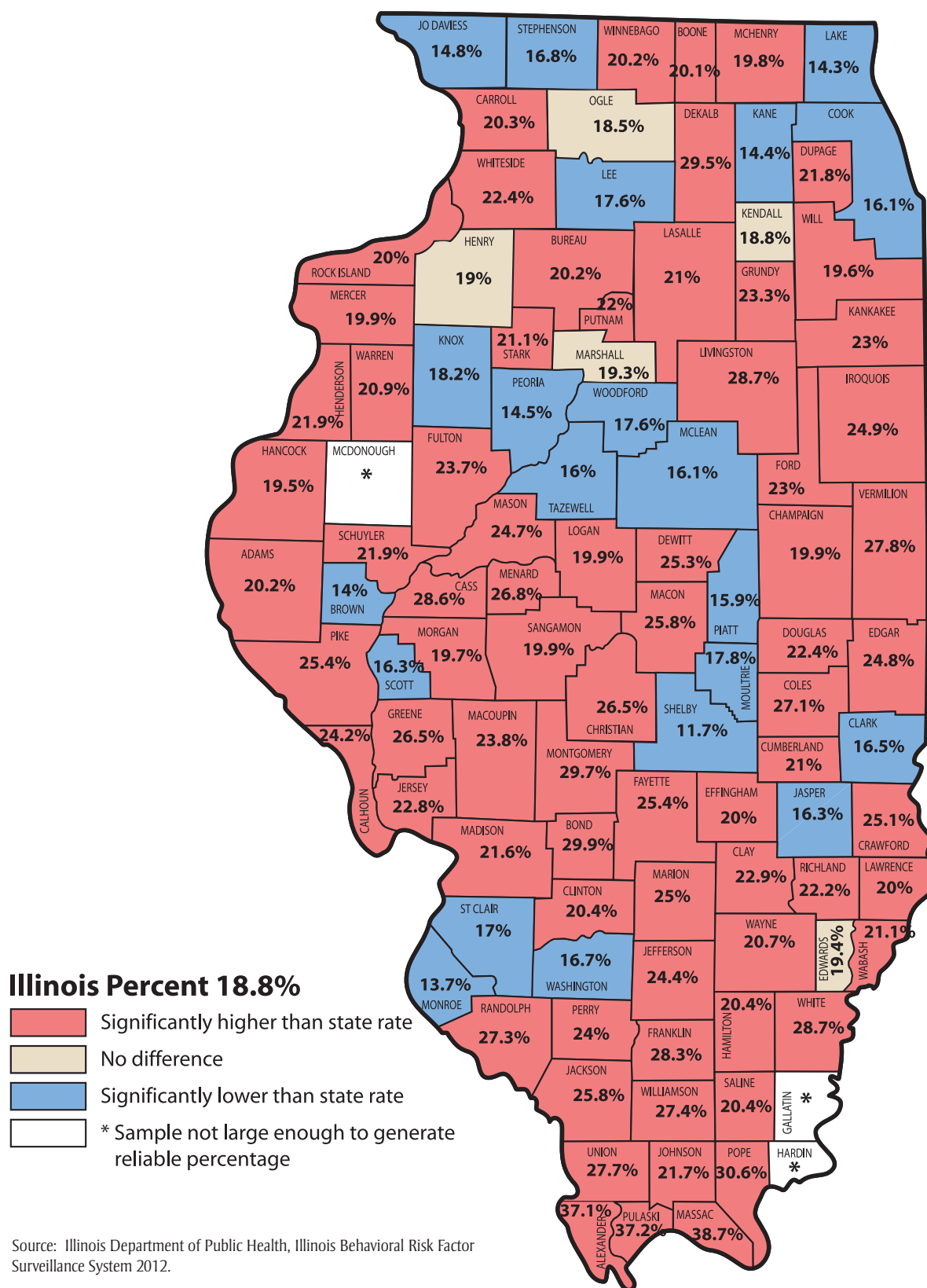
Illinois Rate 214.7 per 100,000

- Significantly higher than state rate
- No difference
- Significantly lower than state rate



Source: Illinois Department of Public Health
Division of Epidemiologic Studies
Illinois State Cancer Registry, November 2013

Percentage of Smokers in Illinois by County 2007-2009

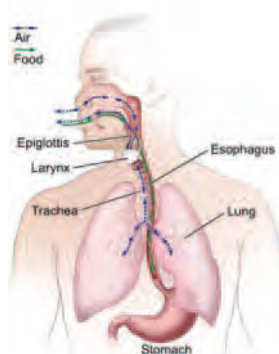
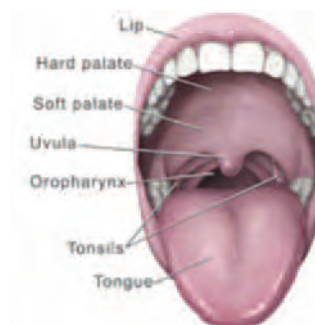


Source: Illinois Department of Public Health, Illinois Behavioral Risk Factor Surveillance System 2012.

Smoking-Related Cancer Sites

Oral Cavity and Pharyngeal Cancer

Using tobacco products increases the risk of getting head and neck cancers by more than 10 times compared to someone who does not use tobacco. Smokeless tobacco represents a significant health risk for cancers of the oral cavity. The risk of cancers of the cheek and gum are almost 50 times higher in smokeless tobacco users. Quitting smoking rapidly decreases a person's risk of developing oral cancer.

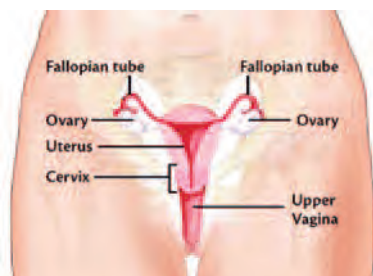
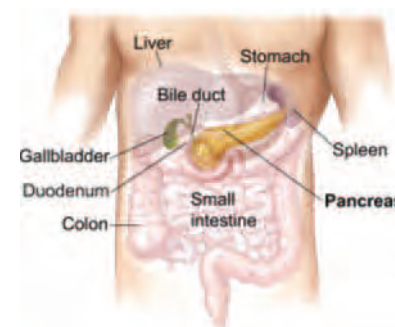


Esophageal Cancer

The esophagus is the tube that carries food from the mouth to the stomach. Cigarette smoking and alcohol use are the most common risk factors associated with esophageal cancer. Both factors by themselves are associated with esophageal cancer and when combined make your risk of cancer even greater.

Cancer of the Pancreas

The pancreas is a large gland located near the stomach that is involved in both digestion and the production of hormones, such as insulin. Smokers have pancreatic cancer rates twice that of non-smokers and heavy smokers can have upwards of six times the risk for cancer of the pancreas. Studies have shown long-term former smokers have little to no difference in their risk for pancreatic cancer compared to non-smokers.



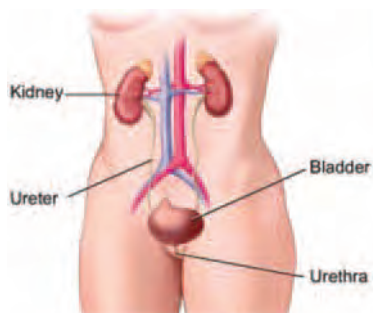
Cancer of the Cervix

Women who smoke have double the risk of developing cancer of the cervix. Harmful chemicals found in tobacco are carried through a woman's body in the bloodstream and have been found in the linings of the cervix.

Acute Myeloid Leukemia

Acute myeloid leukemia (AML) is the most common acute leukemia in adults and starts in a person's bone marrow. AML is more strongly related to the cumulative effects of long-term smoking and the risk does not seem to go away after a smoker quits.

Smoking-Related Cancer Sites



Kidney and Renal Pelvis Cancer

The harmful carcinogens in tobacco smoke are absorbed into the bloodstream and can become highly concentrated in the kidneys making tobacco a major risk factor for kidney cancer. Smokers are more likely to develop kidney cancer and heavy smokers are twice as likely to have kidney cancer as non-smokers.

Urinary Bladder Cancer

Smokers are three times more likely to develop bladder cancer than non-smokers.

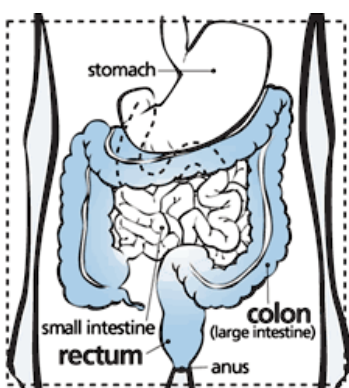
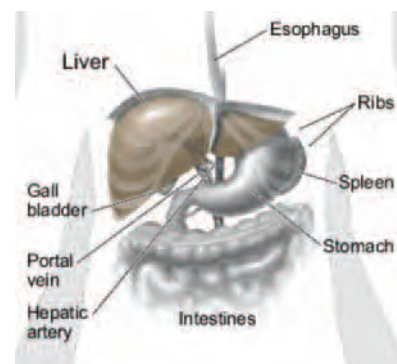
Smoking may be responsible for as much as 60 percent of bladder cancer cases. When you quit smoking, the chances of getting bladder cancer are almost immediately reduced.

Cancer of the Liver

Liver cancer is a deadly disease. Although smoking is not the only risk factor for liver cancer, a recent report of the U.S. Surgeon General reported there is a higher risk of developing liver cancer when you smoke.

Cancer of the Stomach

Smoking has been found to be a risk factor for many stomach cancer cases and deaths.



Cancer of the Colon and Rectum

In Illinois, colorectal cancer ranked third in incidence and second in mortality compared with other cancer sites. Risk factors linked to colorectal cancer include smoking, physical inactivity, obesity, low calcium levels, alcohol use, family history of the disease, and a diet high in red meat and low in vegetables, fruits or folate.

Source: Smoking-Related Cancer in Illinois

Diagrams courtesy of the website of the National Cancer Institute (<http://www.cancer.gov>)



If you quit smoking, the risk of developing lung cancer gradually falls for about 15 years before it levels off and remains about twice that of someone who never smoked. People that smoke and quit before the age of 50 can greatly reduce their chance of dying from a smoking-related disease.

I'd like to quit, and I've tried to quit before—how do I break this addiction?

It takes the average person five-to-seven tries to quit smoking for good. Nicotine is a highly addictive drug. Addiction keeps people smoking even when they want to quit. Like heroin or cocaine, nicotine changes the way your brain works and causes you to crave more and more nicotine. These powerful cravings make it hard for you to think about anything else. Smoking can cause both physical and mental addiction. Today's cigarettes deliver more nicotine and deliver it quicker than ever before. Once inhaled, nicotine races from your lungs to your heart and brain. Did you know teens are more sensitive to nicotine than adults? Each day, about 4,000 teens smoke a cigarette for the first time. Many teens who try cigarettes don't know how easy it is to become addicted. Nicotine addiction is so powerful that every day about 1,000 teens become daily smokers.

If you want to quit, there are FDA approved treatments that have been proved to be safe and to work, including nicotine gum, nicotine skin patches, nicotine lozenges, nicotine oral inhaled products and nicotine nasal spray.



Source: Illinois Tobacco Quitline and A Report of the Surgeon General How Tobacco Smoke Causes Disease 2014.

Resources for Quitting

There are many resources available if you want to quit.

quityes.org

smokefree.gov

<http://www.cdc.gov/tobacco/campaign/tips/quit-smoking/guide/>

www.lung.org/stop-smoking/how-to-quit/

betobaccofree.hhs.gov/quit-now/

www.cdc.gov/tips

www.cancer.org



Research Projects

The Illinois State Cancer Registry has a long history of participating in valuable research. When the registry is contacted to provide data or linkages for studies, an extensive process is used to guarantee patient confidentiality is protected. Part of this process is review and approval from an institutional review board (IRB). An IRB ensures research is conducted in accordance with rules outlined by the Code of Federal Regulations which governs human subjects research and is designed to protect patients. A few of the studies the registry participated in are listed below. Several of these studies have been ongoing for many years and have contributed significantly to the knowledge about cancer.

Black Women's Health Study

Black women are more likely to develop certain health problems than white women. Until the 1990s, most of the studies of women's health included only small numbers of black women or none at all. Improving the health of black women required more knowledge of the causes of these health problems and also more knowledge about how women stay healthy. More knowledge meant more research. The Black Women's Health Study (BWHS) was begun in 1995 to play a key role in carrying out this research.

The BWHS gathers information on many conditions that affect black women, including breast cancer, lupus, premature birth, hypertension, colon cancer, diabetes and uterine fibroids. The BWHS is a "follow-up" study, following the 59,000 women who enrolled in 1995 over time. When the participants entered the study, they provided information on factors that might influence health and disease, such as contraceptive use, cigarette smoking and diet. At regular intervals, participants provide updated information on these factors and on any illnesses they develop. www.bu.edu/bwhs/history

Assisted Reproductive Technology Study

Women who have never been able to conceive are at increased risk of uterine and ovarian cancers. Certain factors or conditions, such as endometriosis, older age at first pregnancy, polycystic ovarian syndrome and pelvic inflammatory disease, have each been associated with greater risk of gynecologic cancers. The use of assisted reproductive technology (ART), defined as medical procedures involving the *ex vivo* manipulation of gametes to achieve conception, has risen steadily in the United States during the past two decades and women have increasingly turned to ART to address infertility issues. In Illinois, there are more than 3,000 ART births per year and the state ranks fifth in the nation for total number of births per year. The Assisted Reproductive Technology and the Risk of Cancer in Women study is designed to examine the cancer risk among women treated for infertility with assisted reproductive technologies between 2004 and 2009 in three states, including Illinois. The study is funded by the National Cancer Institute.

The cancer registry receives funding from the state of Illinois general revenue fund, from the U.S. Centers for Disease Control and Prevention's National Program of Cancer Registries and from researchers who use cancer data.

The Illinois State Cancer Registry has been certified as a "Gold Registry" for the past 16 years. Gold certification is the highest level and cancer data must meet strict guidelines for quality, completeness and timeliness to qualify.

Did you know there is a world-wide shortage of certified tumor registrars? More information about this rewarding career can be found at www.ncra-usa.org.

According to the National Cancer Institute, cancer care cost the United States an estimated \$125 billion in 2010 and costs are expected to rise to at least \$158 billion by 2020.

The 13 employees of the Illinois State Cancer Registry have 200 combined years of experience with the Illinois Department of Public Health.

The Nurses' Health Study I and The Nurses' Health Study II

These two studies are among the largest and longest running investigations of factors that influence women's health. Started in 1976 and expanded in 1989, the information provided by the 238,000 dedicated nurse-participants has led to many new insights on health and disease. While the prevention of cancer is still a primary focus, the study also has produced landmark data on cardiovascular disease, diabetes and many other conditions. Most importantly, these studies have shown diet, physical activity and other lifestyle factors can powerfully promote better health. These studies are funded by the National Institutes of Health. www.channing.harvard.edu/nhs

The Health Professionals Follow-up Study

The Health Professionals Follow-Up Study began in 1986. The purpose of the study is to evaluate a series of hypotheses about men's health relating nutritional factors to the incidence of serious illnesses, such as cancer, heart disease and other vascular diseases. This all-male study is sponsored by the Harvard School of Public Health and is funded by the National Cancer Institute. www.hsph.harvard.edu/hpfs

Cancer Prevention Study II

The Cancer Prevention Study II (CPS-II), which began in 1982, is a prospective mortality study of approximately 1.2 million American men and women. The registry participates in the subset CPS-II Nutrition Survey. The CPS-II Nutrition Survey was established: 1) to obtain detailed information on dietary exposures and to update with additional exposure information, and 2) to conduct prospective cancer incidence follow-up in addition to mortality follow-up. The Illinois State Cancer Registry performs a data linkage to validate self-reported cancers as part of the ongoing cancer incidence follow-up for the survey. This study is performed and funded by the American Cancer Society. www.cancer.org/research/researchtopreventcancer

Transplant Cancer Match Study

Cancer is a major adverse outcome of solid organ transplantation. The elevated risk of cancer is largely due to immunosuppression. The Transplant Cancer Match Study linked the U.S. solid organ transplant registry with state and regional cancer registries to get an overview of the cancer risk in more than 175,000 transplant recipients of all organ types. The study was designed to get a better understanding of cancer risk in transplant recipients to help clarify the role of the immune system, infections and other factors in the development of malignancy, and to identify opportunities to improve transplant safety. *JAMA*, November 2, 2011—Vol. 306, No. 17



prepared by

[Lori Koch](#)

[Melinda Lehnherr](#)

[Kyle Garner](#)

[Jayneece Bostwick](#)

Suggested citation: Koch L, Lehnherr M, Garner K, Bostwick J. Cancer in Illinois 2014. Illinois Department of Public Health, Springfield, Ill. October 2014.

All material in this publication is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

The Illinois Department of Public Health, Illinois State Cancer Registry, makes the cancer incidence data available as a public service. Use of these data does not constitute an endorsement of the user's opinion or conclusions by the Department and none should be inferred.

This publication would not have been possible without the assistance of the Illinois State Cancer Registry staff, the personnel at the reporting facilities who diagnose or treat cancer patients throughout Illinois and the staff members at other state central cancer registries with data exchange agreements.



State of Illinois
Illinois Department of Public Health

This publication was supported, in part, by Cooperative Agreement Number 1U58DP0038883-02 from the U.S. Centers for Disease Control and Prevention (CDC) National Cancer Prevention and Control Program. The contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

Printed by Authority of the State of Illinois

P.O. #5114348 500 11/14

IOCI 15-0420 