



## **Winnebago County, Illinois**

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Review of Winnebago County Cancer  
Mortality and Incidence (1988 – 2008)

August 2011



## **Review of Winnebago County Cancer Mortality and Incidence August 2011**

**Background:** Cancer is an umbrella term that encompasses more than 100 individual diseases, representing a variety of causes. Unfortunately cancer is a common diagnosis. One in three in our population will develop cancer sometime in their life. Cancer is the second leading cause of death in our community and nationwide behind cardiovascular disease. Cancer is also the second leading cause of years of potential life lost (i.e. when the age of those dying are considered) behind injuries (see Cancer Facts – Attachment 5).

Cancer rates vary by age, race, gender, risk factors and type of cancer. Typically cancer risks increase with age. Cancer is contributed to by both external factors (e.g. tobacco, radiation, infectious organisms, and some chemicals) and internal factors (e.g. inherited mutations, hormone levels, immune system deficiencies). Other lifestyle issues can be important as well; these include nutrition, diet and physical activity levels which can influence both cancer risk and treatment outcomes.

Any cancer case is one too many. Thus, whenever cancer is being investigated, discussed or highlighted it provides an important opportunity to emphasize how to reduce the risk of developing cancer and to prevent cancer from developing in the first place. At the same time, it is important to detect cancer early. Early stages of cancer are typically more treatable and so taking advantage of all of the age-appropriate recommended cancer screenings by gender is vital.

**Review of Available Cancer Data:** Annual cancer mortality (number of deaths) since 1998 has remain relatively level, averaging between 562 to 597 deaths per year. This represents about 24% of all deaths each year in Winnebago County.

Thirty-one percent of cancer deaths are considered premature (individuals less than 65 years of age) and the State of Illinois is about the same at 30%.

Age-adjusted cancer mortality for the most recent year available (2006) is 186.6 per 100,000 population for Winnebago County, 187.5 for Illinois, and 180.7 for the U.S. (i.e. comparable). The age adjusted cancer mortality for men (243.1) is higher than for women (166.1) and reflects a similar pattern for both Illinois and the nation, with one of the main influences being tobacco use differences (see Attachment 1).

The Illinois Cancer Registry (1988-2007) provides five year interval average cancer incidence (newly diagnosed cases, age-adjusted). Total cancer incidence and Leukemia incidence for Winnebago County versus Illinois are comparable over that 20 year period (see Attachment 2 and 3). The most recent data available from this Registry is for the five year interval of 2004-2008. This looks at total cancer incidence by gender and race. Winnebago County's total cancer incidence (age-adjusted) does not exceed that for the State as a whole (Attachment 4)

### **Attachments:**

1. Total Cancer Mortality – Tables (*Healthy Community Study, 2010*)
2. Total Cancer Incidence 1988-2007 (*Illinois State Cancer Registry, 1988-2007*)
3. Leukemia Incidence 1988-2007 (*Illinois State Cancer Registry, 2007*)
4. Total Cancer Incidence 2004-2008 (*Illinois State Cancer Registry, June 2011*)
5. Cancer Facts

## Attachment 1

# Winnebago County Mortality Data for Winnebago County

<b>Total Cancer Deaths 1999-2006 (Average Number)</b>	
2003 – 2006	: 593.25
1999 – 2002	: 596.50
1998 – 1995	: 562.25

<b>Age-Adjusted Cancer Mortality (2006)</b>		
Winnebago County	IL	US
186.6	187.5	180.7

<b>Cancer Mortality Rates (Crude, per 100,000 pop for each 3 year period)</b>	
2004 – 2006	: 625.0
1994 – 1996	: 640.8

<b>Percent of Total Deaths (From Cancer)</b>	
2004 – 2006	24.1%
1994 – 1996	24.2%

<b>Crude and Age-Adjusted Mortality Rate by Gender (2004-2006)</b>		
	<b>Crude</b>	<b>Age- Adjusted</b>
Male	219.9	243.1
Female	197.1	166.1

<b>Cancer Mortality Before 65 Years of Age (i.e. premature) 2007</b>	
Winnebago County	Illinois
31.5%	30.1%

<b>Years of Potential Life-Lost (YPLL) for 2006</b>	
Cancer (Malignant Neoplasms) 1774*	
*behind accidents at 2271	

## Attachment 2

<b>Five Year Cancer Incidence, Age-Adjusted Rates (Per 100,000 pop) by gender with 95% CI (Illinois vs. Winnebago County)</b>				
	<b>Illinois</b>		<b>Winnebago County</b>	
	<b>Rate</b>	<b>CI*</b>	<b>Rate</b>	<b>CI*</b>
<b>2003-2007</b>				
<b>Male</b>	576.7	573.8-579.6	521.2	521.2 - 557
<b>Female</b>	430.3	428.2-432.5	425.0	411 - 439.4
<b>1998-2002</b>				
<b>Male</b>	593.3	590.3-596.3	575.8	556.7-595.4
<b>Female</b>	435.1	432.8-437.3	456.2	441.3-471.5
<b>1993-1997</b>				
<b>Male</b>	581.1	578.0-584.2	566.9	547.1-587.3
<b>Female</b>	419.5	417.2-421.7	430.4	415.4-445.7
<b>1988-1992**</b>				
<b>Male</b>	527.7	524.6-530.8	532	511.7-553
<b>Female</b>	388.2	386.0-390.4	394.8	379.9-410.2

*\*CI – Confidence intervals (95%) help put the incidence rate in perspective and facilitate rate comparisons across groups. Observed differences may not be statistically significant. The range between the lower and upper confidence interval defines the range within which there is 95% probability the “true” rate will fall. Comparing the CIs is approximately equivalent to statistically significance tests for differences between two rates and is a more conservative estimate when the null hypothesis is true.*

*\*\*differences in registry database completeness and data quality can influence the magnitude of estimated cancer incidence rates. Years prior to 1994 are less than 95% complete, especially for all sites combined and likely underestimate the “true” rates for the jurisdiction..*

Data Source: Illinois State Cancer Registry ([www.idph.state.il.us/cancer/statistics.htm](http://www.idph.state.il.us/cancer/statistics.htm)) accessed on August 8, 2011

### Attachment 3

<b>Five Year Leukemia (all) Incidence, Age-Adjusted Rates (Per 100,000 pop) by gender with 95% CI (Illinois vs. Winnebago County)</b>				
	<b>Illinois</b>		<b>Winnebago County</b>	
	<b>Rate</b>	<b>CI*</b>	<b>Rate</b>	<b>CI*</b>
<b>2003-2007</b>				
<b>Male</b>	17.1	16.1-17.7	17.1	14.0-20.6
<b>Female</b>	10.0	9.6-10.3	9.3	7.3-11.7
<b>1998-2002</b>				
<b>Male</b>	17.8	17.3-18.4	21.1	17.5-25.2
<b>Female</b>	10.6	10.3-11.0	9.8	7.7-12.3
<b>1993-1997</b>				
<b>Male</b>	17.0	16.5-17.5	18.3	14.8-22.3
<b>Female</b>	10.0	9.7-10.4	8.8	6.8-11.2
<b>1988-1992**</b>				
<b>Male</b>	13.5	13.0-14.0	13.2	10.3-16.7
<b>Female</b>	8.2	7.9-8.5	8.1	6.0-10.5

*\*CI – Confidence intervals (95%) help put the incidence rate in perspective and facilitate rate comparisons across groups. Observed differences may not be statistically significant. The range between the lower and upper confidence interval defines the range within which there is 95% probability the “true” rate will fall. Comparing the CIs is approximately equivalent to statistical significance tests for differences between two rates and is a more conservative estimate when the null hypothesis is true.*

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## Attachment 4

<b>Total Cancer Incidence by Gender Illinois vs Winnebago County 2004-2008 (Age Adjusted Rates)</b>			
	<b>Total</b>	<b>Male</b>	<b>Female</b>
<b>Illinois</b>	490.4	577.0	433.8
<b>Winnebago</b>	469.3	537.1	427.5
<b>Whites</b>			
<b>Illinois</b>	485.9	563.0	436.8
<b>Winnebago</b>	468.0	530.2	430.9
<b>Blacks</b>			
<b>Illinois</b>	527.4	683.6	429.2
<b>Winnebago</b>	475.0	627.7	383.0

Source: Illinois Cancer Statistics Review, Incidence, 2004-2008, Epi Report Series 11:03, June 2011



## Cancer Facts

Concerns about cancer clusters usually begin when a relative, friend, neighbor, or co-worker is diagnosed with cancer. This close contact with cancer often brings an awareness of other people who have cancer and a strong desire to identify a cause. Heightened awareness and a search for causes may lead to more questions. The following facts can help to answer some of those questions about cancer and cancer clusters:

### **Cancer is not just one disease.**

The term “cancer” refers to a group of over 100 diseases that all start because abnormal cells grow out of control. Cancer is a disease with many risk factors, only some of which are understood. Different types of cancer have been associated with various causes or risk factors, including genetics, lifestyle, and environment. For example, smoking is a known cause of lung cancer. Because of cancer’s complex causes, we cannot immediately assume that cancers occurring in one place or at one time share a common cause.

### **Cancer is more common than most people realize.**

Cancer is the second leading cause of death in the United States and in Illinois. Cancer accounts for about a quarter (24-25%) of all deaths to Illinoisans. According to the American Cancer Society, men have a little less than a one in two lifetime risk of developing some type of cancer (not counting skin cancer); for women the risk is a little more than 1 in 3. This means that cancer strikes about three out of four families. Just a few types of cancer are very common—cancers of the breast, prostate, lung and bronchus, and colon and rectum account for approximately 58 percent of all newly diagnosed cancers in Illinois.

Given these statistics, it is not unusual to learn that several people in a neighborhood or workplace may have cancer.

### **The risk of cancer increases with age.**

Age is the most important risk factor for developing cancer. About three out of four people diagnosed with cancer in the United States are age 55 years or older. Therefore, a community of older adults is expected to have more cancer cases than a community with younger people or a range of age groups.

### **Most cancers are related to lifestyle factors.**

Medical researchers believe that the risk of cancers is related to how we live. Lifestyle factors such as smoking or other tobacco use, diet, obesity, and lack of exercise are believed to account for approximately two-thirds of all cancer deaths in the US. Lifestyle factors often cluster in communities, as people tend to adopt the same habits and diet as their family, friends, and neighbors.

### **Toxic substances in the environment account for a relatively small percentage of cancer deaths in the U.S.**

Many people believe that cancer is generally caused by exposure to toxic substances in the environment. However, researchers indicate that environmental exposures, *other than tobacco smoke*, may account for less than 10 percent of all cancers.



## **Cancers diagnosed today are usually related to events that happened many years ago.**

Cancer is caused by both **internal factors** (such as gene mutations [both inherited and acquired later in life], hormones, age, and immune conditions) and **external factors** (such as exposures to tobacco, sun and other ultraviolet radiation, chemicals, X-rays, and infectious organisms). These factors may act together or alone to initiate or promote the growth of a cancer. Ten or more years often pass between the first cell mutations or a harmful exposure and the detectable cancer. This long period makes it very difficult to pinpoint the specific causes of many cancers.

## **Cancer clusters can occur by chance.**

For some cancer types and some geographic areas, a small number of cases may be enough to change an area's cancer rate from below average to above average. While the increase may be real, the additional cases may simply be the result of variations that occur randomly or by chance, and not be due to a single cause. Many communities have below average cancer rates and many others have above average cancer rates. Small communities tend to be more different from average while larger communities tend to be closer to average just because in a small community, just a few cases can make a big difference to the rate.

These cancer facts must be kept in mind when the health department receives a report from a person about a suspected cancer cluster in his or her neighborhood or workplace.

## **How are clusters investigated in Illinois?**

Reports of suspected cancer clusters are taken seriously. Both local and state agencies can be involved in the process. Local health departments are included in handling reports of clusters because they have knowledge of local health and environment issues and insight regarding local residents' concerns. They are also typically the first point of contact for concerns about possible clusters. Initial inquiry includes seeking information such as:

- The type(s) and number of cancers involved
- Specific information about each person thought to be affected
- Specific information about the cancers themselves
- The area and time period in which the cases occurred

By law, the Cancer Registry of the Illinois Department of Public Health collects cancer information each year from hospitals, laboratories, cancer treatment centers, and doctors on all new cancer cases diagnosed in Illinois. Because the Illinois Cancer Registry has information about the number, type, and location of cancers in Illinois, its staff participates in these types of investigations. The combined experience of many states and agencies involved with cancer cluster investigations suggests that statistically significant cancer clusters are extremely rare. Only about two of every 1,000 reports of suspected cancer clusters reach the step where a further investigation is required to identify common risk factors. However, every call regarding a cancer cluster report is an opportunity to learn more about cancer and to find the best ways to reduce risk.

## **References:**

- CDC, National Centers for Environmental Health, *Cancer Clusters* ([www.cdc.gov/nceh/clusters/faq.htm](http://www.cdc.gov/nceh/clusters/faq.htm))
- American Cancer Society, *What is Cancer* ([www.cancer.org/cancer/cancerBasics/what-is-cancer](http://www.cancer.org/cancer/cancerBasics/what-is-cancer))
- National Cancer Institute, *Cancer Cluster Fact Sheet*, USDHHS, October 5, 2006
- *Illinois Cancer Statistics – Incidence, 2004-2008*, Epidemiological Report Series 11:03, June 2011, (IDPH)
- *Top 10 Cancers in the State of Illinois*, Epidemiologic Report Series 10:06, February 2010, (IDPH)
- *Illinois State Cancer Incidence Review and Update, 1986-2008*, Epidemiologic Report Series 11:06, August 2011 (IDPH)

