

# **Green Lake County Public Health Department**



## **Health Needs Assessment 2007**

To Green Lake County Residents:

Every five years, according to state statutes, county health departments are required to complete a community health needs assessment. The purpose of the assessment is to provide an overview of the county's overall health conditions and of residents' health behaviors. Specific issues that surface from assessment data help the health department determine areas of future program planning and development. Data is also useful when applying for grant funding.

The Green Lake County Public Health Department would like to thank the following for their assistance in completing the 2007 Health Needs Assessment:

- Masters in Public Health Program in the School of Medicine and Public Health at University of Wisconsin Madison
- Aurora Health Care
- Green Lake Area Health and Wellness Coalition

For questions or comments regarding the assessment, please contact the Green Lake County Public Health Department at 920-294-4070.

Note: Copies of the 2007 Green Lake County Community Health Survey Report, commissioned by Aurora Health Care, and the 2007 Wisconsin County Health Rankings, compiled by the University of Wisconsin Population Health Institute, Department of Population Health Sciences, are available online at [www.co.green-lake.wi.us/hhs/health](http://www.co.green-lake.wi.us/hhs/health).

Yours in good health,

Kathy Munsey  
Green Lake County Health Officer



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# Summary of Key Findings

## I. Demographics

### **Green Lake County is an aging county.**

- Persons 65 years old and over account for 18.1% of the population, (WI average 13% ; US average 12.4%).
- Persons age 45-64 make up 28.7% of county population (WI average 25.7%; US average 24.6%).
- Only nine other Wisconsin counties have an older residential base than Green Lake's.

### **Green Lake County's population numbers remain fairly stable.**

- The percent of population change from April 1, 2000 to July 1, 2006 was 0.2% (WI increase 3.6%; US increase 6.4%).
- Green Lake County's population growth rate is 62<sup>nd</sup> out of 72 counties.

### **Green Lake County is primarily rural, with a higher than average population of whites.**

- Green Lake County's population is 98.9% white (WI average 90.1%; US, 80.2%).
- Persons per square mile in 2000 averaged 54.0 (WI average 98.8; US average, 79.6).

## II. UW Population Health Institute rankings

### **Health Outcomes**

- Green Lake County went from a ranking of 23 in 2004 to 57 in 2007, putting the county in the bottom quartile.
- According to the 2007 report, 16.4% of Green Lake County residents reported fair/poor health, ranking the county 63<sup>rd</sup> out of 73.

### **Health Determinants**

- From 2004-2007 Green Lake County hovered in the lower middle quartile, ranking 39<sup>th</sup> out of 73 in 2007.
- In 2007, county residents ranked 35<sup>th</sup> in the category of health care.
- Health determinants include the following: Lack of health insurance, dentist visits, diabetic care, mammography, and necessary health care.

### **Health Behaviors**

- After consistently ranking in the lowest quartile from 2004-2006, Green Lake County moved up in 2007 to 45<sup>th</sup> (the lower middle quartile) in the category of health behaviors.
- Tobacco use is above state average according to the 2007 report. In 2007 the county had a 25.4% rate of cigarette smoking, (WI average 22.3%) and a 17.1% rate of smoking during pregnancy (WI average 14.1%).
- The 2007 report indicated 36.8% had no biennial mammography (WI rate 30.1%).

## III. Other Health-related Factors:

### **Free & reduced lunch & breakfast program recipients**

- Although the percentage of students eligible for such programs is lower than the state's, the county has few schools that participate in breakfast programs.

### **Chronic Illness**

- Green Lake County has higher than state rates of adults with hypertension, coronary heart disease, heart attacks, asthma and arthritis, conditions that are consistent with an aging population. Death rates from heart disease, pneumonia, influenza, and stroke are also higher than rates in the Northeastern region and the state.

### **Overweight, Obesity, Lack of Physical Activity**

(From *2005 Burden of Cardiovascular Disease in Green Lake County report*)

- 26% of county residents are obese (BMI>30), (WI rate 21%)
- 38% have high cholesterol (WI rate 33%)
- 68% lack physical activity (WI rate 45%)
- 80% eat less than 5 servings of fruits or vegetables per day (WI rate 79%).

#### **IV. Aurora Health Care, 2007 Green Lake County Community Health Survey Report:**

According to this report, the top four community health issues as perceived by survey respondents were the following:

- Lack of exercise (55%)
- Childhood obesity (48%)
- Alcohol abuse (43%)
- Smoking (31%)

#### **Key finding:**

- Overall Health: 18% of respondents indicated fair or poor health (WI average 12%, U.S. average 15%).

#### **V. Green Lake County Area Health & Wellness Coalition:**

From the 11 health priorities listed in *Healthiest Wisconsin 2010*, coalition members identified the following as the top three health issues for Green Lake County:

- Overweight, obesity, lack of physical activity
- Access to primary and preventative health services
- Adequate & appropriate nutrition

#### **VI. 2002 Needs Assessment Health Priorities**

- Tobacco use
- Overweight/obesity
- Substance abuse
- Cerebrovascular disease
- Lack of physical activity

Overall, the issues facing Green Lake County have not changed substantially since the 2002 Needs Assessment, and they are similar to those facing the state and the nation:

- Residents of all ages need to make positive changes in health behaviors by reducing rates of overweight & obesity, improving physical activity and nutrition, getting regular health checkups, and lowering the rates of tobacco and alcohol use.
- Residents ages 45 and older need to be aware of health conditions associated with aging, and learn to recognize and identify specific health problems, particularly those associated with cardio-vascular disease.
- County youth need to focus on making healthy lifestyle choices, especially in the areas of tobacco, alcohol and other drug use

Recommendations to be followed include those identified in *Healthiest Wisconsin 2010: A Partnership Plan to Improve the Health of the Public*

# Green Lake County Demographics & Economics

<b>Population Overview</b>	<b>2000</b>	<b>2005</b>
• Population.....	19,105	19,320
• Median Age (years).....	40.9	42.6
• Racial Majority: White.....	96.7%	98.9%
• Population Density (people per square mile).....	54	55
• Crude Birth Rate (live births per 1,000 residents).....	11.2	10.6
• General Fertility Rate (live births per 1,000 women ages 15 to 44).....	57.9	61.8
• Teen Birth Rate (live births per 1,000 women ages 15 to 19).....	30.1	26.7
• Housing Units.....	7,703	10,221
•		

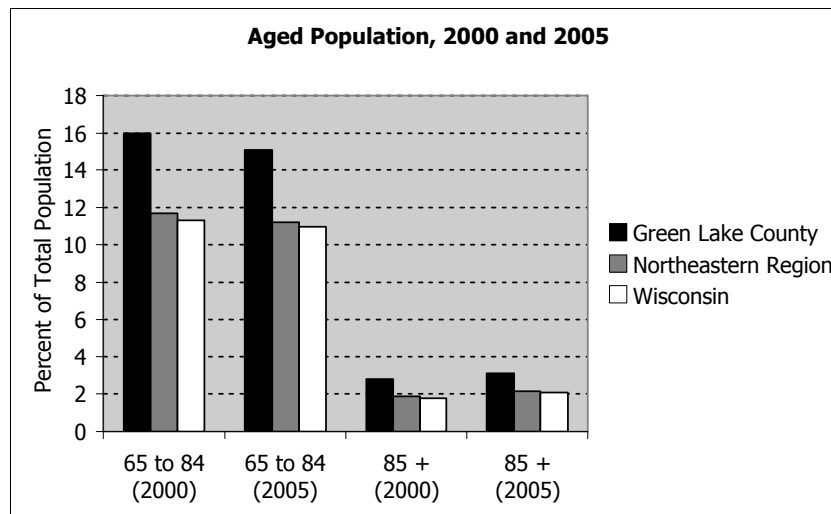
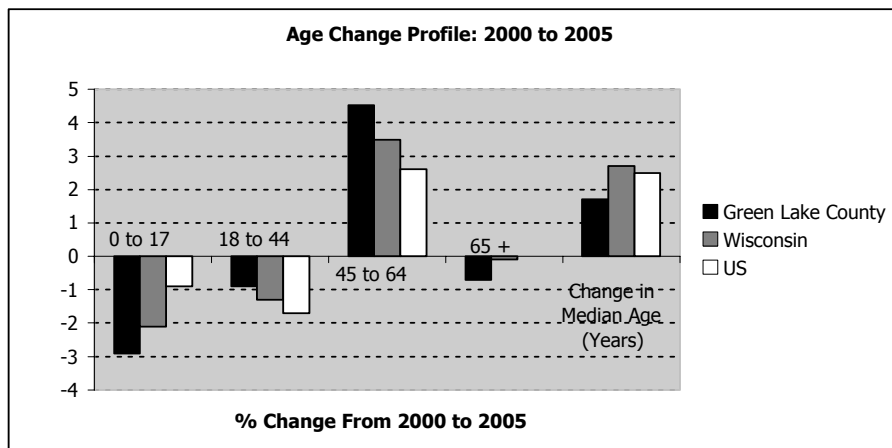
<b>Economic Overview</b>	<b>2000</b>	<b>2005</b>
• Top Industry.....	Health	Manufacturing
• Fastest Growing Industry.....	Finance/Insurance/ RealEstate/Construction	Healthcare
• Employer.....	Community Health	Community Health
• Average Wage (per worker per year).....	\$24,396	\$27,740
• Unemployment Rate.....	4.2%	5.5%
• Labor Force.....	10,800	10,397
• Average Per Capita Personal Income.....	\$21,397 (1997)	\$28,419
• Average Median Household Income.....	\$36,015 (1997)	\$42,511
• Population Living in Poverty.....	7.9%	8.7%
• Children Living in Poverty.....	11.7%	9.2%

## Age

Consistent with the state and the nation, the largest percentage of Green Lake County's population is the 18 to 44 year old age group. Green Lake County's 2005 median age is 42.6 years, an increase from the median age of 40.9 in 2000, and older than the median age of the state and the country. The number of residents in the 45-64 age group in 2000 was 24.2% as compared to 28.7% in 2005. Between 2000 and 2005, the only age group to experience an increase in percent of the total population was the 45 to 64 year old group, with an increase of 4.5%. (WDHFS 2006, 2006a, US Census Bureau 2005)

Age Profile 2005				
	Green Lake County		Wisconsin	US
Age	Number	% of Total	% Of Total	% Of Total
<b>0-17</b>	4,090	21.30%	23.40%	24.80%
<b>18-44</b>	6,170	31.90%	37.90%	38.20%
<b>45-64</b>	5,550	28.70%	25.70%	24.60%
<b>65+</b>	3,510	18.10%	13.00%	21.40%
<b>Total</b>	<b>19,320</b>	<b>100.00%</b>	<b>5,581,980</b>	<b>296,410,404</b>
<b>Median Age</b>	<b>42.6</b>		<b>38.7</b>	<b>37.8</b>

Sources: WDHFS 2006, WDHFS 2006a, WSCB 2005



## Race

Green Lake County's population primarily identifies as White. In Green Lake County, 1.9% of people identify as Hispanic or Latino, with less than 1% each identifying as Black, Asian, or Native American. Less than 0.01% of county residents identify as Native Hawaiian/Pacific Islander.

### Race Profile 2005 (% of total population)

Race	Green Lake County	Wisconsin	US
White	98.9	90.1	80.2
Hispanic/ Latino	2.0	4.5	14.4
Black	0.2	6.0	12.8
Native American	0.2	0.9	1.0
Asian	0.4	2.0	4.3

Figures may not total 100% due to personal identification of more than one race.

Source: USCB 2005

### Change in Population (White) 2000-2005

	GLC 2000	GLC 2005	WI 2000	WI 2005	US 2000	US 2005
White	96.7%	98.9%	87.3%	90.1%	69.1%	80.2%

(Source: (USCB 2005, 2000a)

Between 2000 and 2005, Green Lake County's White and Asian population increased 0.1%, while the Hispanic/Latino population decreased 0.1%. Sources: USCB 2005, USCB 2005a

## Household Characteristics

In 2006, 5.9% of households in Green Lake County were single parent (either female householder or male householder) households. The state average is 8.2%. Green Lake County has the 8<sup>th</sup> lowest single parent household rate in the state (UWPHI 2006). The number of households has increased by 2,518 since 2000, from 7,703 to 10,221. (USCB 2005a, 2000c)

## Population Growth

Green Lake County's population growth has not changed much in the last five years. Of the state's 72 counties, Green Lake County's 2005 population ranked 55<sup>th</sup> and its growth rate between 2000-2005 ranked as 62<sup>nd</sup>. Green Lake County was one of 20 Wisconsin counties registering more deaths than births between 2000-2005. Only nine other Wisconsin counties have an older residential base than Green Lake's. The younger segment of the county's population is decreasing. Those 19 years and younger have decreased from 27% of the total population in 2000 to 24% in 2005.

## Population Density

Green Lake County continues to be less densely populated than the state overall. Based on 2006 population estimates divided by square miles, 55 people per square mile reside within Green Lake County (+1 since 2000), as compared to 103 people per square mile for the State of Wisconsin (+4 since 2000). (WDHFS 2006, 2006a, USCB 2005)

## Industry & Employers

The manufacturing industry employs the most people in Green Lake County, as of 2006. The table below shows the top three industries in the county, and the number of people employed as of December, 2006 (WDWD 2007). According to the WDWD report, had the data been sorted by annual average levels rather than March 2005 statistics, food services and drinking places would have been the second largest employing county industry. Overall, educational services are the county's largest employing industry, although Community Health Network, Inc. is the only county employer with more than 500 employees. The WDWD report also notes that Green Lake County mirrors the state in that its largest employer and two of its top 10 industries are health care-related. Health care is the state's fastest and largest growing employment base, a demand fueled by an aging population (WDWD 2006).

### Top 3 Green Lake County Industries 2006

Industry	Number of Employees
Manufacturing	1,370
Education & Health Services	1,184
Government (Municipal, State, & Federal)	1,151

Source: WDWD 2007

The 10 employers in the following list employ 40% of all Green Lake County workers. The only difference between this list and the top employers of 2000 is that Wal Mart Associates, Inc. (100-249 employees) has been replaced by Magnum Products, (250-499 employees).

### Green Lake County Top 10 Employers 2005

Company	Product or Service	Size
Community Health Network Inc.	General Medical & Surgical Hospitals	500-999
Citation Foundry Corp.	Iron Foundries	250-499
Berlin Area School District	Elementary & Secondary Schools	250-499
Magnum Products LLC	Lighting Equipment Manufacturing	250-499
County of Green Lake	County Government Services	100-249
The Heidel House	Hotels & Motels	100-249
City of Berlin	Municipal Government Services	100-249
Markesan Public Schools	Elementary & Secondary Schools	100-249
Ripon Athletic	Cut & Sew Apparel Manufacturing	100-249
Precision Metalsmiths	Steel Investment Foundries	100-249

Source: WDWD 2006

**Wages**

The overall average wage is 78% of the statewide average, causing Green Lake County to rank 47<sup>th</sup> in average wages. This low ranking may explain why one-third of all Green Lake’s employed residents work in either Fond du Lac, Winnebago or Dodge counties (WDWD 2006). In 2000, as well as in 2005, approximately 44% (4,137) of Green Lake County workers traveled outside of the county to work (WDWD 2003, 2006).

The table below shows Green Lake County’s average yearly wages compared to the State of Wisconsin’s average yearly wages for the years from 2001-2006.

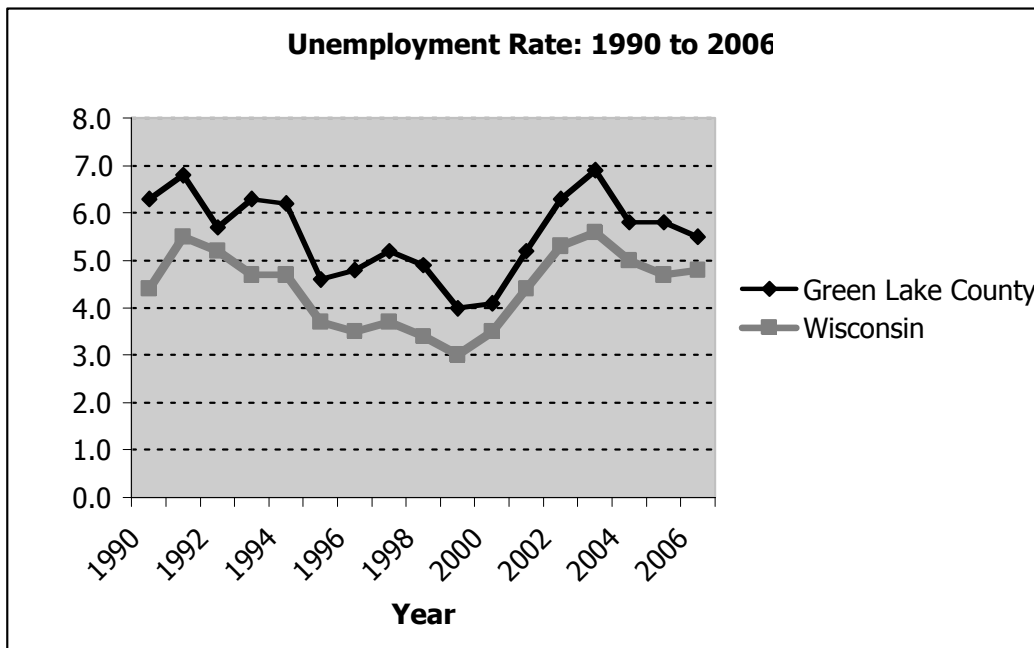
**Average Annual Wages**

Year	Green Lake County	Wisconsin
2001	\$24,396	\$30,922
2002	\$24,952	\$32,422
2003	\$25,781	\$33,423
2004	\$27,448	\$34,749
2005	\$27,740	\$35,503

Source: WDWD 2006, WORH 2002

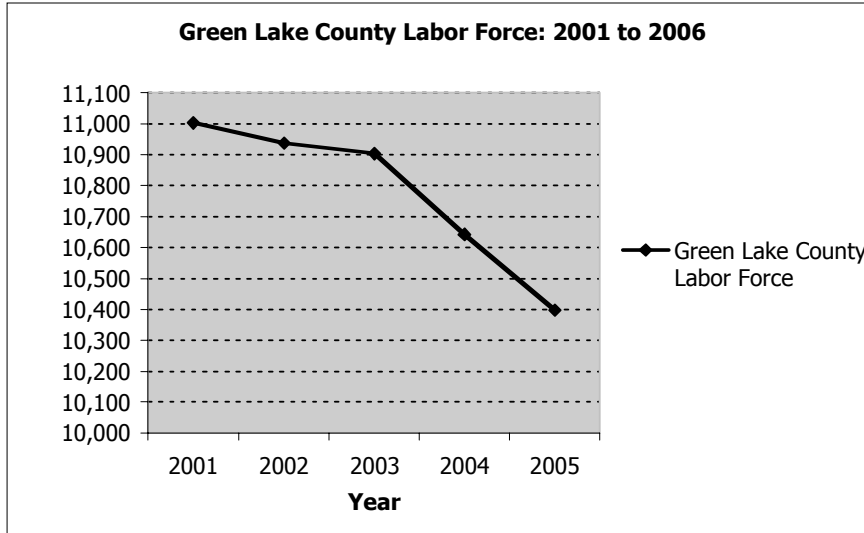
**Unemployment**

Green Lake County’s unemployment rate continues to exceed the state’s rate, as it has throughout the last 15 years. In 2005, there were 601 unemployed individuals, representing 5.2% of the county’s labor workforce, and in 2000 there were 432 individuals unemployed or 4.2% (WDWD 2006, 2000). The unemployment rate rose slightly to 5.5% in 2006 (UWIPH 2006a). As of 2006, Green Lake County’s unemployment rate was 37<sup>th</sup> out of Wisconsin’s 72 counties (UWPHI 2006a).



### Labor Force Participation

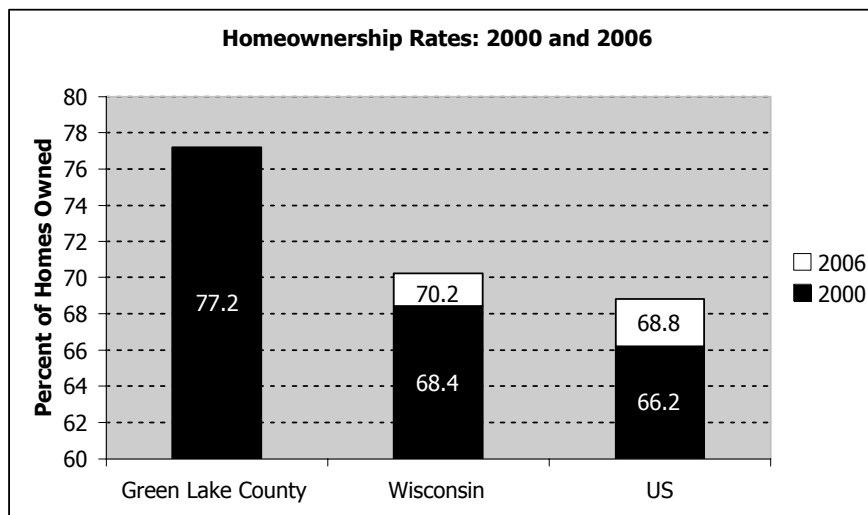
After hitting its highest ever recorded level in 2001, Green Lake County's labor force has been declining, most dramatically since 2003 (WDWD 2006). This trend is primarily attributed to an increasing aging and retiring population and to a 44% rate of the labor force commuting to work out of the county. In 2005, Green Lake County's labor force participation rate ranked 49<sup>th</sup> of 72 counties.



Source: WDWD 2006

### Homeownership

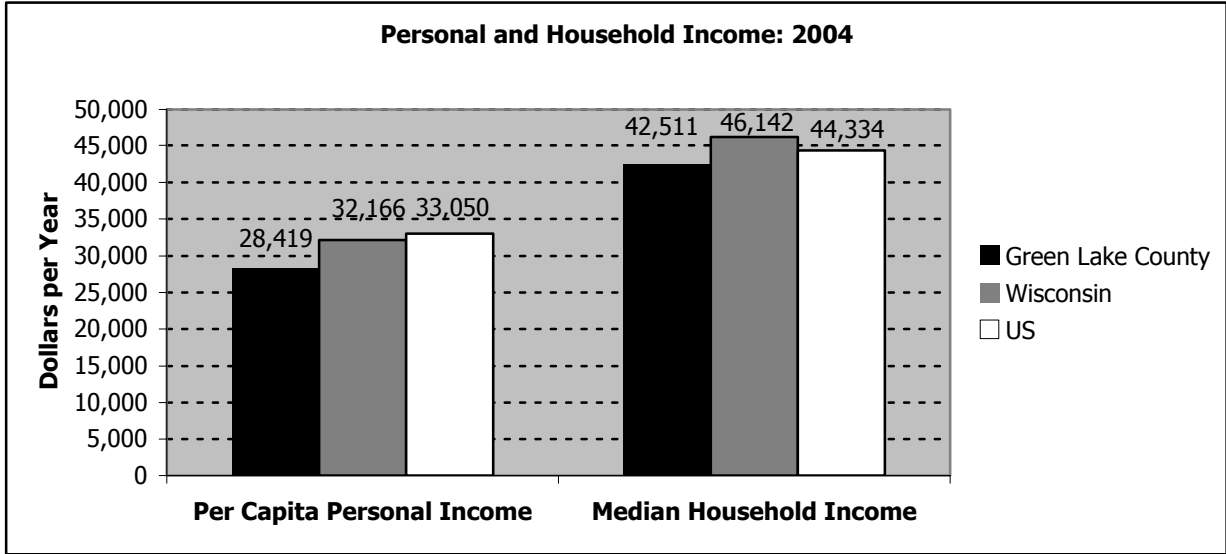
In 2000, just over 77% of Green Lake County residents owned homes. This is a higher percentage than both the State of Wisconsin (68.4%) and the nation (66.2%). Homeownership estimates have not been done for the county level since the 2000 US Census, but state and national estimates are available. The table below shows the 2000 Census homeownership rates for the county, state, and nation, compared to 2006 estimates for the state and the nation.



Sources: USCB 2000, 2007a

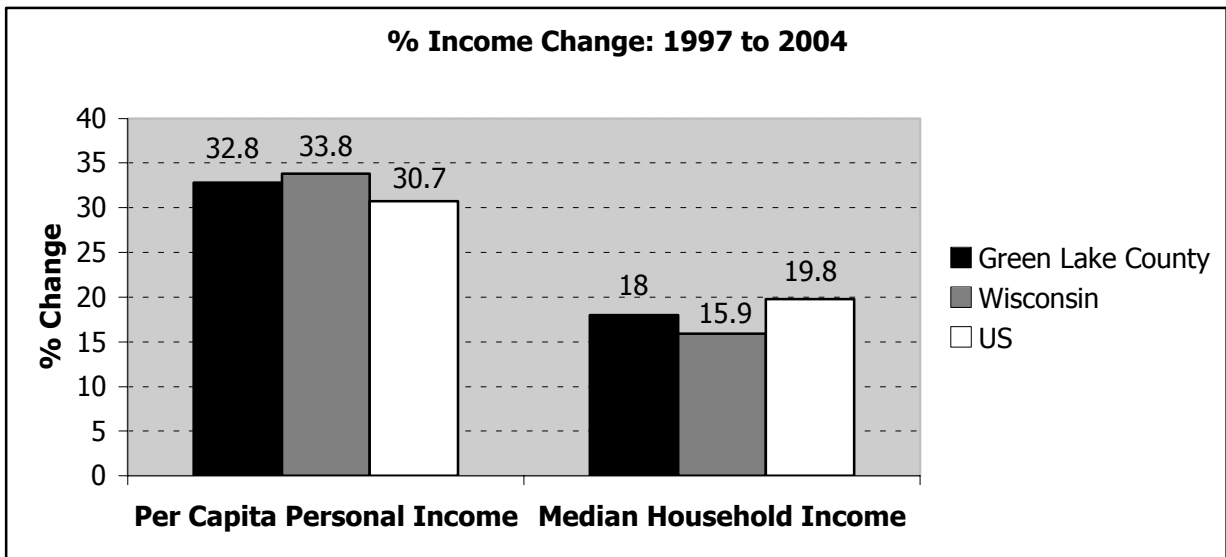
**Income**

In 2004, Green Lake County's per capita personal income was \$28,419, which ranks the county 32<sup>nd</sup> out of Wisconsin's 72 counties (WDWD 2006). Both the per capita personal and median household incomes in Green Lake County are lower than the values for both the state and the nation.



Sources: USDC 2006, WDWD 2006

Though Green Lake County continues to have lower income levels than both the state and the nation, comparing 1997 incomes to 2004 incomes shows that the county's per capita income increased at a higher percentage than the nation, and the median household income increased at a higher percentage than the state.

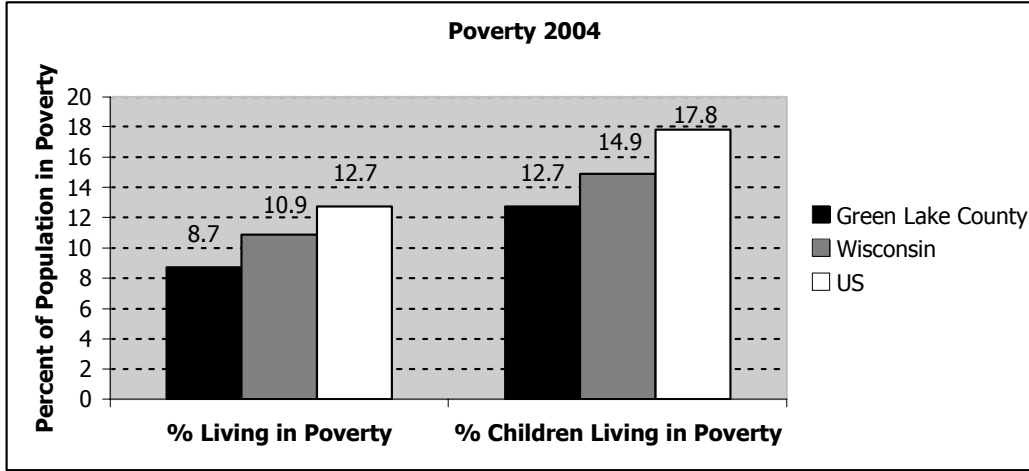


Sources: USDC 2006, WDWD 2006, WORH 2002

**Poverty**

In 2004 Green Lake County had a lower percentage of people living in poverty than both the state and the nation. However, while both the county and the state showed increases in percentage of people living in poverty (+0.8 and +1.7 percentage points respectively) from 2000 to 2004, the nation showed a decline of -0.6 percentage points. This trend is the same for percentage of children (those under age 18) living in poverty: both Green Lake County and the State of Wisconsin showed increases (+1.0 and +0.6 percentage points respectively) from 2000 to 2004, while the nation showed a decrease (-2.8 percentage points) (USCB 2004).

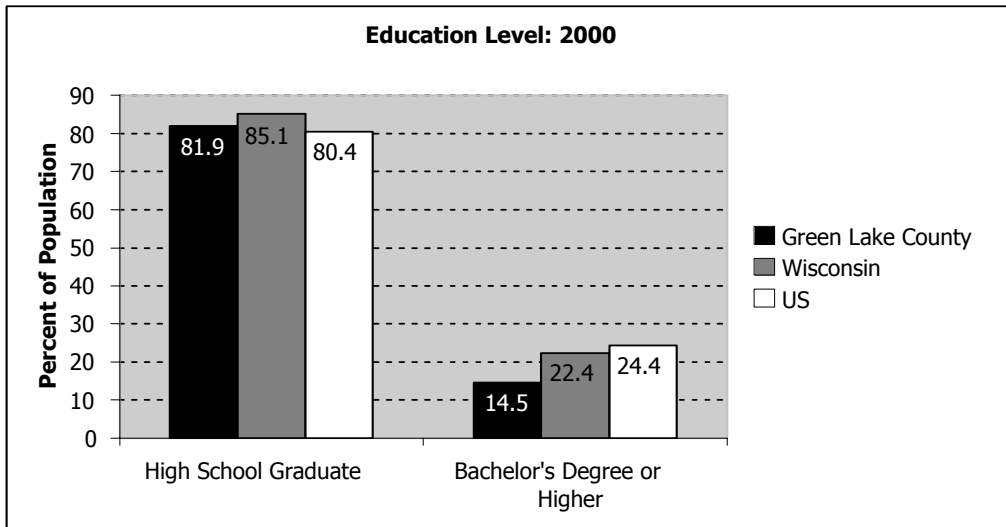
In 2006, the percent of children living in poverty in Green Lake County had dropped to 9.2%, ranking the county 31<sup>st</sup> in the state out of 72 counties (UWPHI 2006).



Source: USCB 2004

**Education**

The percentage of people 25 years and over with a high school diploma or higher in Green Lake County was lower than the state and slightly higher than the national rate. The percentage of people 25 years and older with a bachelor’s degree or higher was lower than the state and nation (USCB 2000).



Source: USCB 2000

# Wisconsin County Health Rankings

Each year, the University of Wisconsin Population Health Institute publishes a report that summarizes the health of the population of each of Wisconsin’s counties based on key factors that determine health. The report ranks Wisconsin’s 72 counties according to measures of health outcomes and health determinants.\* Places receiving high ranks (lower numbers, with 1 being the best)) are considered the healthiest.

Health outcomes rankings are based on an equal weighting of mortality and general health status, while health determinants ranking are based on the following weighted scores: Health care—10%; Health behaviors—40%; Socioeconomic factors—40%; Physical environment—10%.

As the chart indicates, Green Lake County’s rankings have declined since 2004, when the county ranked 23 out of 72 in Health Outcomes and 32 out of 72 in Health Determinants. By 2006, the county had slipped to 59<sup>th</sup> in Health Outcomes and to 43<sup>rd</sup> in Health Determinants. In both 2007 and 2006 the county ranked in the lower middle quarter for Health Determinants and in the bottom quarter for Health Outcomes.

The category of Health Behaviors includes tobacco and alcohol use (cigarette smoking, smoking during pregnancy, binge drinking and motor vehicle crash deaths), diet and exercise (physical inactivity, obesity and eating less than 5 fruits or vegetables a day), high risk sexual behavior (teen birth rate and STI’s), and violence (crime).

As the chart shows, Green Lake County’s ranking in health behaviors has significantly dropped, from 37<sup>th</sup> in 2003 to 68<sup>th</sup> in 2006. In 2006 only 4 other counties ranked worse than Green Lake County in this category. According to the 2007 report, Green Lake County has shown some improvement, particularly in the area of Health Behaviors. (Source: Wisconsin County Health Rankings 2003, 2004, 2005, 2006, 2007)

According to the 2007 report, Green Lake County ranks in the top quartile in mortality rates for infants through ages 24; however, the ranking drops to the bottom quartile for ages 25-64 (ranking 48<sup>th</sup>) and for ages 65+ (ranking 54).

\*Note: In 2006 and 2007 the rankings included the City of Milwaukee in addition to the 72 counties.

Trends in Rankings	2003	2004	2005	2006	2007
Health Outcomes	30	23	38	59	57
Health Determinants	39	32	41	43	39
Health Behaviors	64	55	66	68	45

According to the 2007 UW Population Health Institute report, Green Lake County ranks low in the following:

Category	Ranking
• % with no biennial mammography	61
• % cigarette smoking	51
• % smoking during pregnancy	36
• Motor vehicle crash occupancy rate (per 100,000)	70
• MV crash-related ER visits-traffic (per 100,000)	61
• % housing with increased lead risk	55
• % fair/poor health	63
<b>County strengths according the 2007 report are the following:</b>	
• Ozone level (ppb)	3
• Fine particulate matter in air	4
• % single parent households	8
• % divorce	17
• % not receiving needed health care	15

## Dental Care

*Dental Visits* – In 2006, 46.5% of Green Lake County residents had been treated by a dentist in the previous 6 months, comparable to the same figures for both the Northeastern Region (45.1%) and the state (44.9%) (UWPHI 2006). The *Healthy People 2010* target for 6 month dental visits is 44% (USDHHS 2007). Also in 2006, Green Lake County was ranked 30<sup>th</sup> out of 73 (all Wisconsin counties and the city of Milwaukee) of population receiving 6 month dental care (UWPHI 2006).

*Dental Insurance* – According to the US Department of Health and Human Services, in 2002, 55.7% of adults and 14.0% of minors under the age of 18 have dental insurance (USDHHS 2002). These figures fall well below the *Healthy People 2010* target of 100% (USDHHS 2007).

## Physician and Dentist Workforce

In 1998, Green Lake County fell below the state (-5.1) and national (-5.5) averages in work force per 10,000 population ratios for primary care physicians. The county was also below the state (-1.4) and national (-1.4) averages in work force per 10,000 population ratios for dentists.

By 2000, the Northeast region was still falling below the state (-5.0) in physicians per 10,000 population, and by 2003, still falling below the state (-3.0) in dentists per 10,000 population. The 2000 and 2003 rates, however, show growth for the state in both categories (WHDFS 2000, WDHFS 2005b, WORH 2002).

In 2002, Green Lake County was designated as both a Health Professional Shortage Area and a Dental Health Professional Shortage Area (Wisconsin Office of Rural Health, 2002).

## Medicaid Recipients

In January, 2007, 11.5% of Green Lake County's residents received Medicaid, an increase of 3.2 percentage points since 2001. At 2.7%, the county showed no change from 2001 to 2007 in the percent of residents elderly or disabled residents receiving Medicaid. State percentages rose +5.6 percentage points in the same time period for total Medicaid recipients, and rose +2.1 percentage points for elderly or disabled recipients (WDHFS 2007a, WORH 2002).

### Percentage of Medicaid Recipients

Year	Green Lake County	Wisconsin
2000	8.3%	9.6%
2007	11.5%	15.2%

## Vulnerable Populations

*Definition* – Any population who experiences health disparities to the general population and/or faces barriers to health care by mechanism of (but not limited to) racial minority, economic status, illness, disability, extreme age, and/or substance addiction (USDHHS 1998).

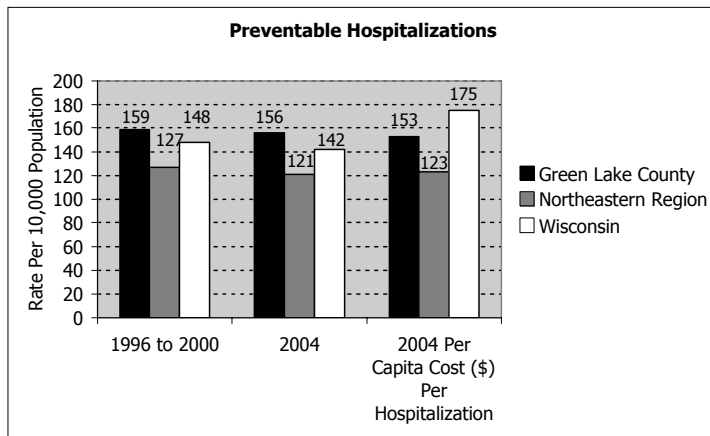
### Vulnerable Populations in Green Lake County

Demographic	Measure	Prevalence
Racial Minority	% of Population, 2005	1.1
Advanced Age	65 +, % of Population, 2005	18.1
Unemployment	% of Workforce, 2006	5.5
Living in Poverty	% of Population, 2004	8.7
Lack of Health Care Coverage	% of Population, 2006	5.9
Mental Illness	Hospitalization Rate per 100,000 Population, 2004	63
Heavy Drinking	% of Population, 2005	8.1
Teen Births	Rate per 1,000 Teens, 2005	27.8

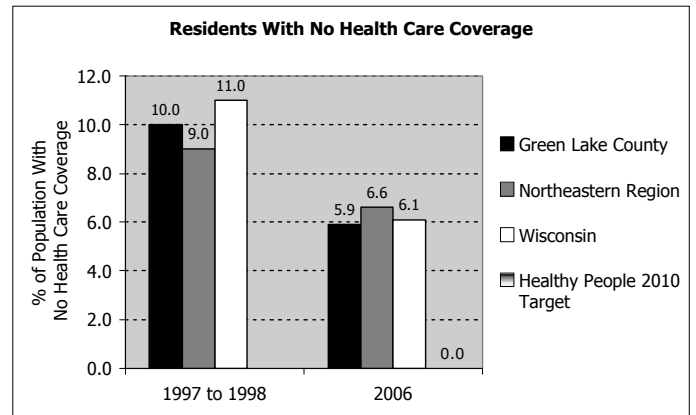
## Preventable Hospitalizations

*Definition* – admission to a hospital due to a condition that could have been prevented. For example, some hospitalizations for pneumococcal infections may have been prevented if patients had received vaccinations for influenza and pneumonia (WORH 2002). In 2004 in Green Lake County, there were 87 pneumonia or influenza related hospitalizations, at an average per capita cost of \$44 (WDHFS 2004).

In 2004, Green Lake County continued to have a higher rate for preventable hospitalizations (156 per 10,000 population) than both the Northeastern Region (121) and the state (142) (WDHFS 2004). As would be expected, Green Lake County also had a higher per capita cost for preventable hospitalizations than the Northeastern Region (+\$30). However, even though the state had a lower rate of preventable hospitalizations, the county had a lower per capita cost per hospitalization (-\$22) (WDHFS 2004).



Sources: WDHFS 2004, WORH 2002



Sources: USDHHS 2007, UWPHI 2006

## Lack of Health Care Coverage

In 2006, Green Lake County, the Northeastern Region, and the State of Wisconsin all showed decreases (-4.1, 2.4, and 4.9 percentage points respectively) in the percent of residents with no health insurance. However, the numbers are still above the *Healthy People 2010* target of 0.0% uninsured.

According to the University of Wisconsin Population Health Institute's *2006 Wisconsin County Health Rankings*, Green Lake County ranked 29<sup>th</sup> out of 72 counties (plus the city of Milwaukee, a ranking of 1 is the lowest rate) for residents without health care coverage. The report also found that from 1998 to 2004, 2.7% of Green Lake County residents reported that they did not receive needed medical care, ranking the county 57<sup>th</sup> (plus the city of Milwaukee, a ranking of 1 is the lowest rate) in the state for percent of population not receiving needed care (UWPHI 2006a).

## Food and Water Borne Illnesses

From 1996 to 2000, there were 5 or fewer documented cases each of salmonella, shigella, and campylobacter enteritis per year in Green Lake County (WORH 2002). In 2004, there were 6 documented cases of campylobacter enteritis, and between 1 and 5 cases each of salmonella and shigella (WDHFS 2004).

In 2004, the Northeastern region reported a combined (salmonella, shigella, and campylobacter enteritis) rate of 41.1 documented cases per 100,000 population, and the state reported a combined rate of 48.0 documented cases per 100,000 population (WDHFS 2004).

## Air Quality

In 2006, Green Lake County ranked 31<sup>st</sup> in the state for lowest respiratory hazard index, and 3<sup>rd</sup> for both lowest fine particulate (<2.5) matter and lowest ozone (UWPHI 2006a). From 1997 to 1999, the average number of environmental contacts per year was 150 (WORH 2002). In 2005, there were 417 contacts.

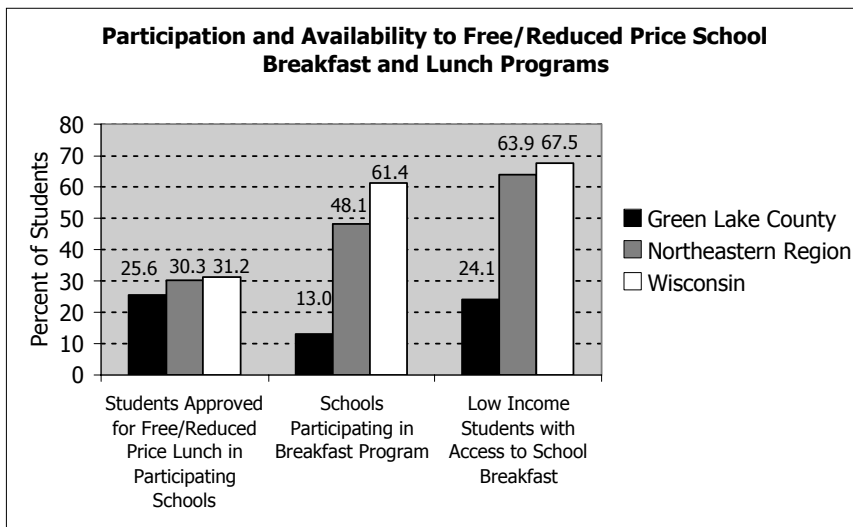
### Women, Infants, Children (WIC) Services

In 2004, Green Lake County had 609 total WIC participants, a rate of 315 participants per 10,000 total population, the same rate as for the Northeastern Region and lower than the state rate of 349 (WDHFS 2004). The 2004 county rate is an increase over the 1996 to 2000 annual average rate of 261 (WORH 2002).

### Free/Reduced Lunch and Breakfast Program Recipients

The percentage of students who are eligible to enroll in the Free/Reduced Lunch Program continues to be lower for Green Lake County than for the state of Wisconsin, with an average of -7.8 percentage points in the county vs. the state from 1993 to 1998 (WORH 2002).

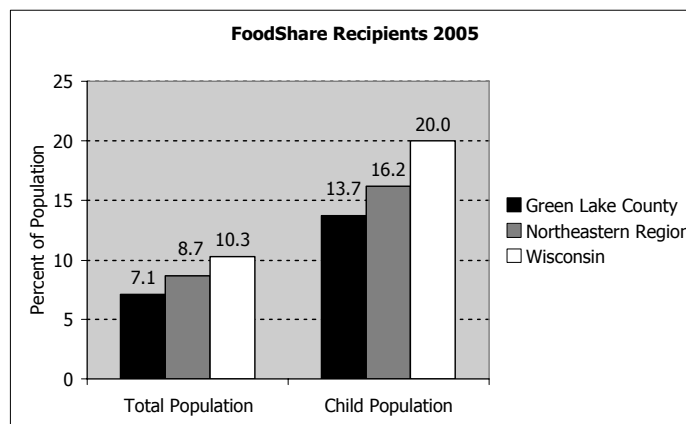
Green Lake County also has fewer schools that participate in breakfast programs (-48.4 percentage points from the state), leaving a significant gap between accessibility for low income students (-43.4 percentage points from the state). Data is reported for all public and private schools (WDHFS and UWE 2005).



Source: WDHFS and UWE 2005

### FoodShare (Food Stamp) Program Participation

According to the *Wisconsin Food Security Project*, in 2005, 1,353 people in Green Lake County participated in the FoodShare Program (7.1% of the total population, with 13.7% of participants younger than age 18). Green Lake County ranks 47<sup>th</sup> out of 72 counties in total population FoodShare participation, and 44<sup>th</sup> in child FoodShare participation (WDHFS and UWE 2005).



Source: WDHFS and UWE 2005

### Self-Reported Health Status

From 1994 to 1998, 3% of adults surveyed in Green Lake County, 9% in the Northeastern region, and 9% in the state reported their health to be "fair or poor" (WORH 2002). By 2005, those numbers rose to 13.2%, 10.9%, and 12.0% respectively (UWPHI 2006a, WDHFS 2005).

### Green Lake County residents reporting their health to be "fair or poor" according to Wisconsin Health Rankings Reports, 2003-2006\*

Year	Rank	% reporting fair/poor health
2003	61	10.3%
2004	48	12.3%
2005	46	13.2%
2006	64	15.4%
2007	63	16.4%

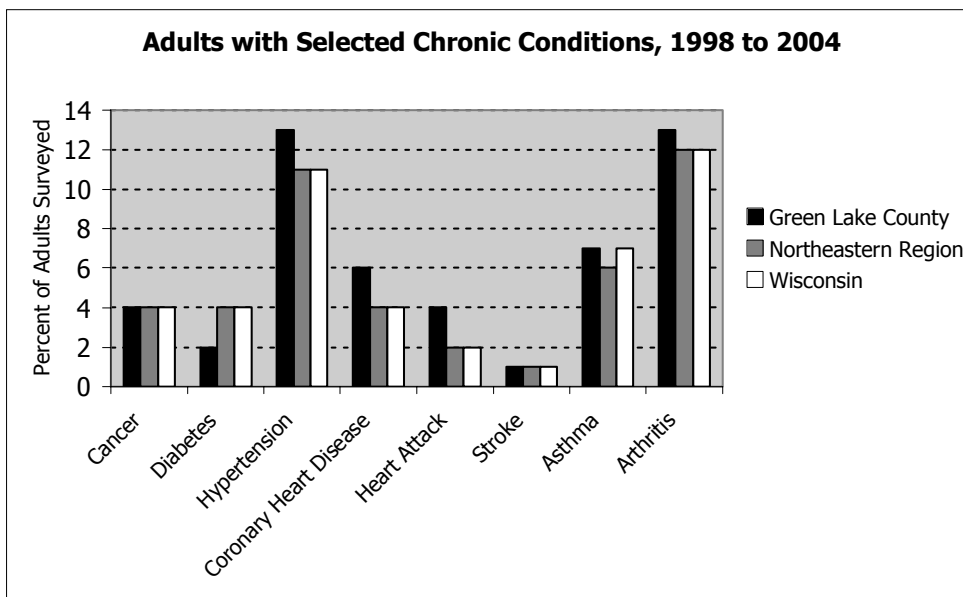
\*In 2003-2005 rankings were based on 72 counties; in 2006-07 rankings also included the City of Milwaukee.

Note: The counties that ranked #1 in the state (the lowest number reporting fair/poor health) reported the following percentages:



### Chronic Illness

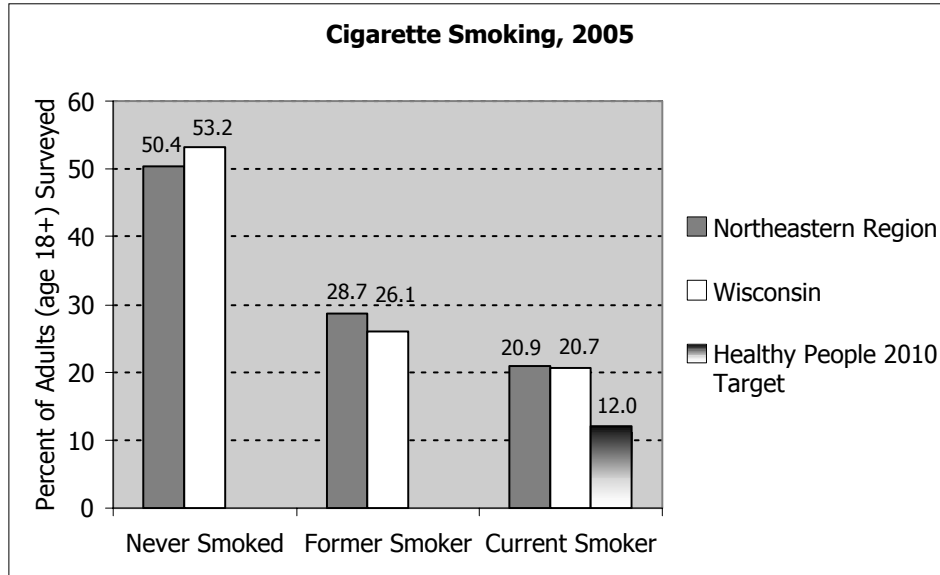
From a report that compiled survey data from 1998 to 2004 for selected chronic health conditions, Green Lake County ranked greater than or equal to the values for both the Northeastern Region and the state for all conditions except diabetes (WDHFS 2006d).



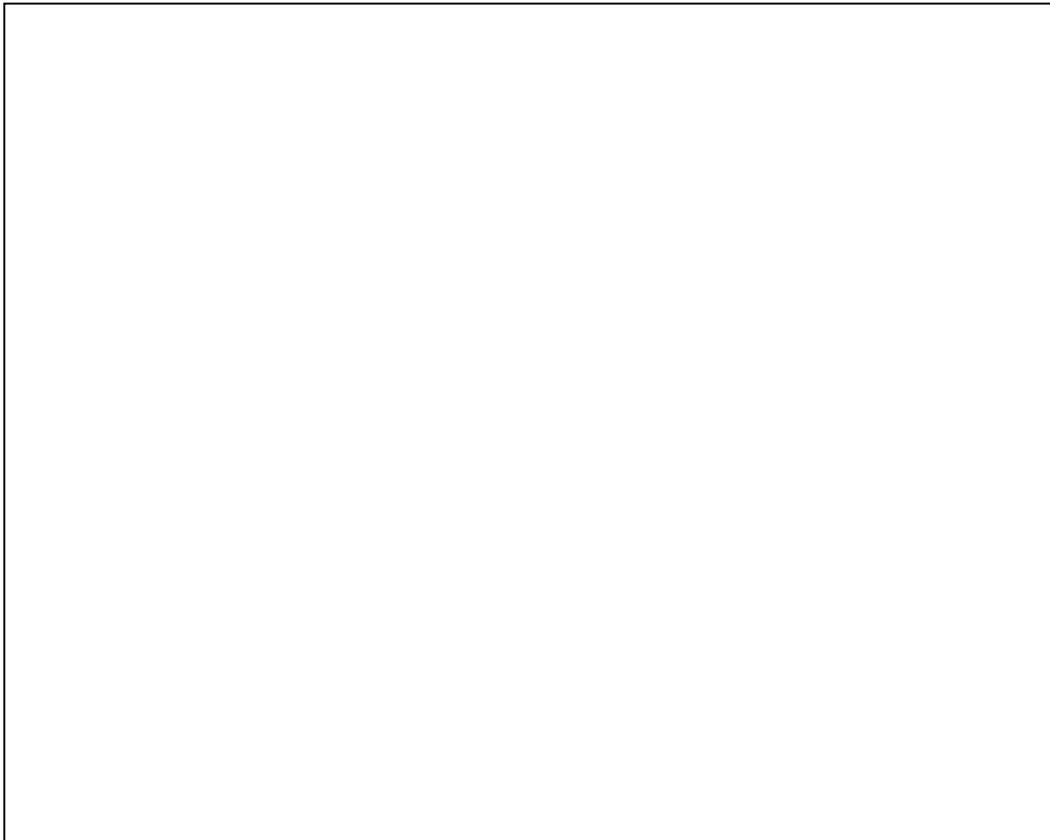
Source: WDHFS 2006d

## Current Cigarette Smokers

In 2005, about 21% of surveyed adults in the Northeastern Region and the state of Wisconsin reported as current smokers (WDHFS 2005). This number has not decreased significantly since 1989 (WORH 2002), and is above the *Healthy People 2010* target of 12% (USDHHS 2007).



Sources: USDHHS 2007, WDHFS 2005

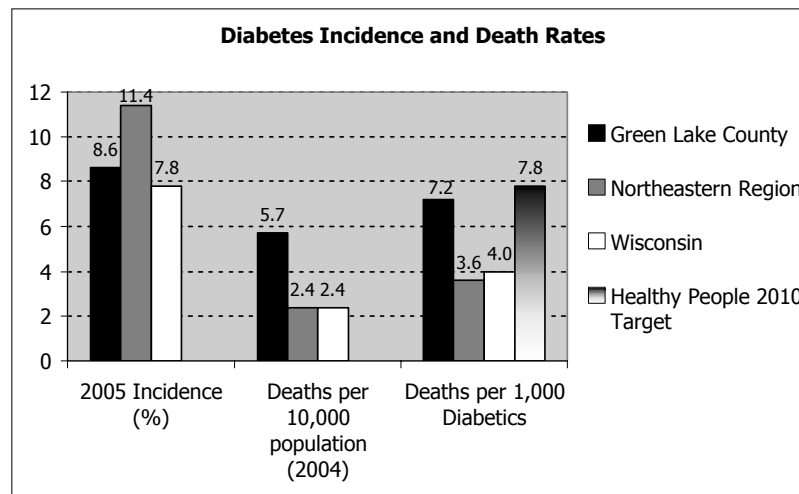


## Diabetes Incidence, Hospitalizations, and Related Deaths

**Incidence** – In 2005, an estimated 1,520 (8.6%) of Green Lake County’s residents were diabetic, a higher percentage than the state (7.8%, 329,460 people) and a lower percentage than the Northeastern region (11.4%, 79,460 people) (WDHFS 2005a). The county, region, and state have all experienced increases in the percentage of population with diabetes since the mid 1990s: +1.6, +8.4, and +2.8 percentage points respectively (WORH 2002).

**Hospitalizations**– In 2003, among Green Lake County residents, diabetes-related complications resulted in 28 hospitalizations (WDHFS 2004), an increase from the average of 24 hospitalizations per year from 1993-1997 (WORH 2002). In 2006, 15.1% of diabetics in Green Lake County did not receive recommended care, ranking the county 49<sup>th</sup> out of 73 (all Wisconsin counties and the City of Milwaukee) for poor diabetic care (UWPHI 2006a).

**Deaths** – In 2004, there were 11 diabetes-related deaths in Green Lake County (WDHFS 2004), an increase from the average of 9 diabetes-related deaths per year from 1995 to 1999 (WORH 2002). Using the 2005 estimates of the number of people with diabetes, and the 2004 numbers of diabetes-related deaths, we can compare county, region, and state progress with the national *Healthy People 2010* goal of 7.8 diabetes-related deaths per population with diabetes.



## 2005 Burden of Diabetes in Wisconsin Report

According to the report, the cost of diabetes in Green Lake County amounts to an estimated \$14.4 million in direct costs, and \$6.3 million in indirect costs, for a total estimate of \$20.7 million. The reports indicate the following statistics:

### Diabetes Prevalence – Green Lake County and the State of Wisconsin

% Estimated Number Diagnosed	Green Lake County	Wisconsin
% Estimated number diagnosed ages 18+	1,090 (6.2%)	235,330 (5.6%)
% Estimated number diagnosed ages 65+	560 (16%)	94,560 (13.4%)
% Estimated number undiagnosed ages 18+	430 (2.4%)	37,820 (2.2%)
% Estimated total number ages 18+	1,520 (8.6%)	329,460 (7.8%)

### Costs of Diabetes-related Hospitalizations (2002)

	Green Lake County	Wisconsin
% of total number of all hospitalizations	17.1%	13.5%
% of total charges diabetes-related	18.1%	16.6%

## Overweight and Obesity

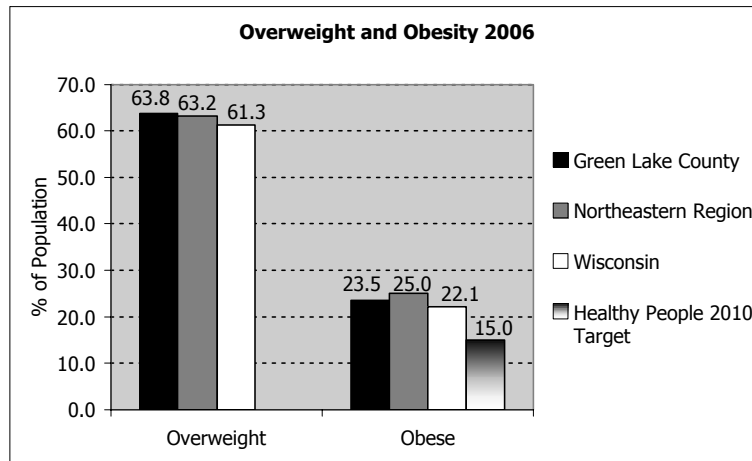
*Body Mass Index (BMI)* – weight in kilograms divided by height in meters squared

*Overweight* – BMI greater than or equal to 25 and less than 30 kg/m<sup>2</sup>

*Obese* – BMI greater than or equal to 30 kg/m<sup>2</sup>

In 2006, 63.8% of Green Lake County residents were overweight, which was comparable to the Northeastern Region, where 63.2% of residents were overweight, and slightly higher than the state, where 61.3% of residents are overweight (UWPHI 2006a). Also in 2006, 23.5% of Green Lake County's residents were obese, which is also comparable to the Northeastern Region (25.0%) and the state (22.1%). These values are above the *Healthy People 2010* Target of 15% obese population (UWPHI 2006a).

In 2006, Green Lake County ranked 34<sup>th</sup> out of 73 (all of Wisconsin's counties plus the City of Milwaukee) for obese percent of population (UWPHI 2006a).

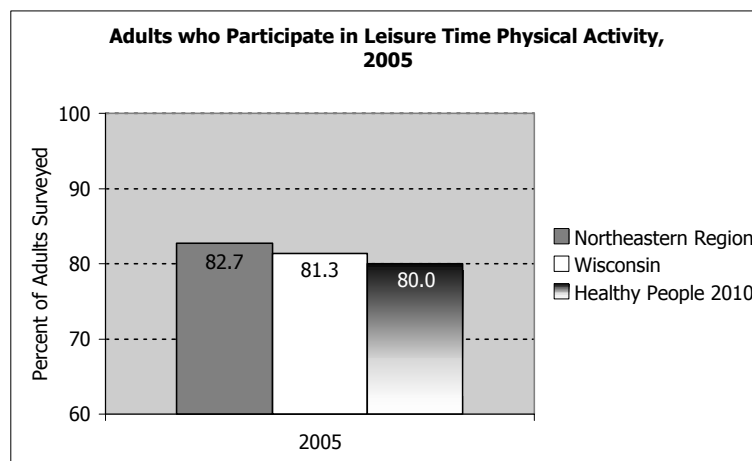


Source: UWPHI 2006a

## Physical Activity

*Exercise is minimally defined as any leisure time physical activity. Survey question: "During the past month, other than your regular job, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?" ~Wisconsin Behavioral Risk Factor Survey*

In a 2005 survey, the Northeastern region reported that 82.7% of adults in the region and 81.3% of adults statewide participate in leisure time physical activity (WDHFS 2005). These numbers are just above the *Healthy People 2010* target of 80% of adults to participate in leisure time physical activity (USDHHS 2007).



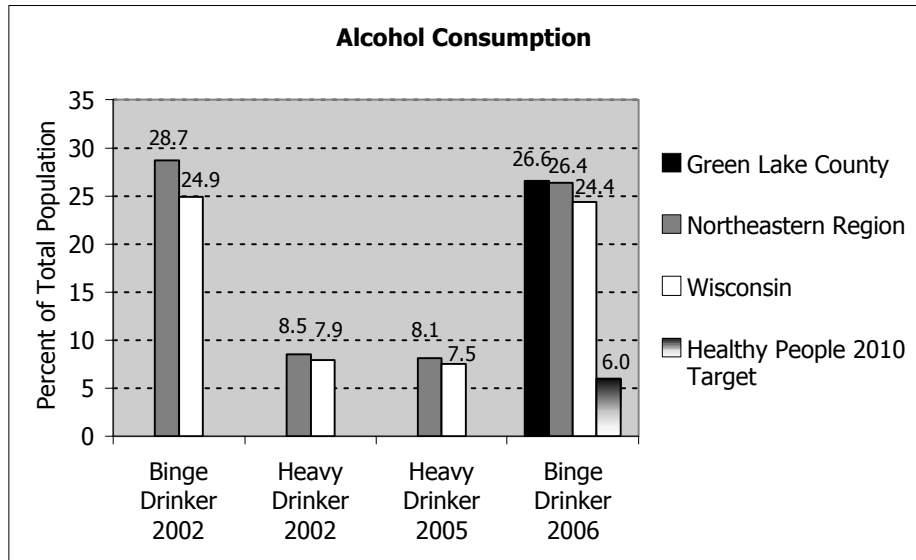
Sources: USDHHS 2007, WDHFS 2005

## Alcohol Consumption Rates

*Binge Drinkers* – those reporting that they had 5 or more alcoholic drinks on at least one occasion during the past 30 days (WDHFS 2005).

*Heavy Drinkers* – men reporting an average of more than 2 drinks per day and women reporting an average or more than 1 drink per day during the past 30 days (WDHFS 2005).

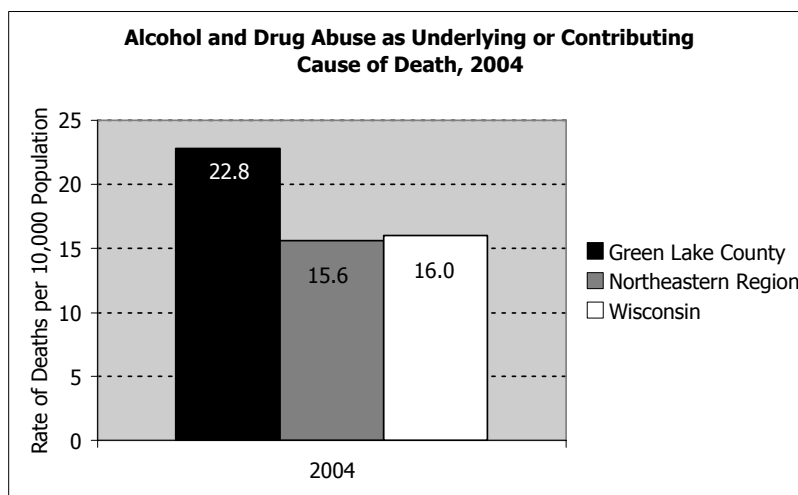
Levels of binge and heavy drinking decreased slightly for the region and the state from 2002 and 2005 (WDHFS 2005). In 2006, the percent of the population who reported binge drinking in Green Lake County was slightly higher than the rates for the Northeastern region and the state. All regions were significantly higher than the *Healthy People 2010* target of 6% of the population reporting binge drinking (UWPHI 2006a). In 2006 Green Lake County ranked 49<sup>th</sup> in the state for binge drinking (UWPHI 2006a).



Source: UWPHI 2006a, WDHFS 2005

## Alcohol and Drug Related Deaths

In 2004, Green Lake County exceeded both the Northeastern Region (+7.2) and the state (+6.8) in deaths per 10,000 population due to alcohol and drug use. These figures include deaths due to tobacco use (WDHFS 2004).



Source: WDHFS 2004

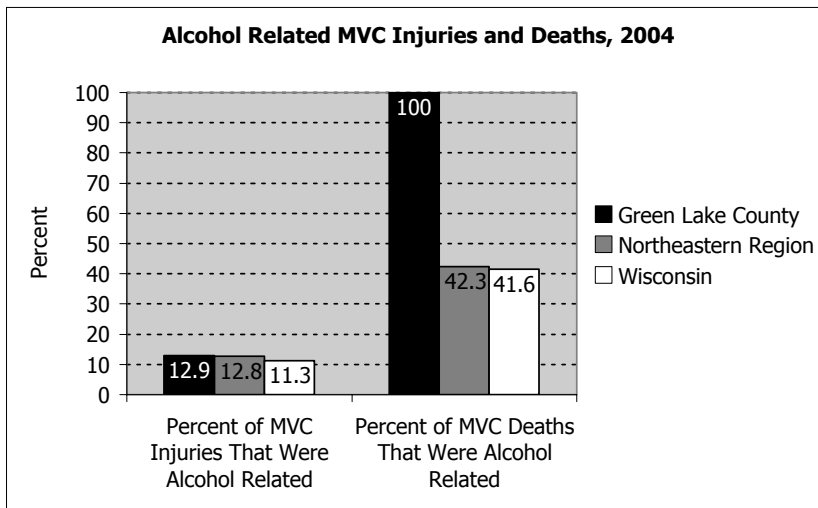
In 2004, there were 46 alcohol-related hospitalizations in Green Lake County, resulting in an average cost of \$5,474 per hospitalization. The county also had 8 drug-related hospitalizations in 2004 (WDHFS 2004).

### Drinking and Driving Rates

From 1989 to 1994 and 1993 to 1998, 7% of Green Lake, Marquette, Waupaca, and Waushara County adult (age 18+) residents reported driving after having too much to drink at least once in the previous month. From 1993 to 1998, the state reported 5% and the Northeastern region reported 7% residents who drove after having too much to drink at least once in the previous month (WORH 2002).

In 2004, 12.9% of all injuries and 100% of deaths due to motor vehicle crashes (MVCs) in Green Lake County were alcohol-related. The percent of alcohol-related MVC injuries in the county is similar to that of both the region and the state. The percent of deaths due to alcohol-related MVC in the county is more than double the same percent for the region and the state. The difference may be due to the fact that the county only had 2 MVC related deaths total, and both were alcohol-related (WDHFS 2004).

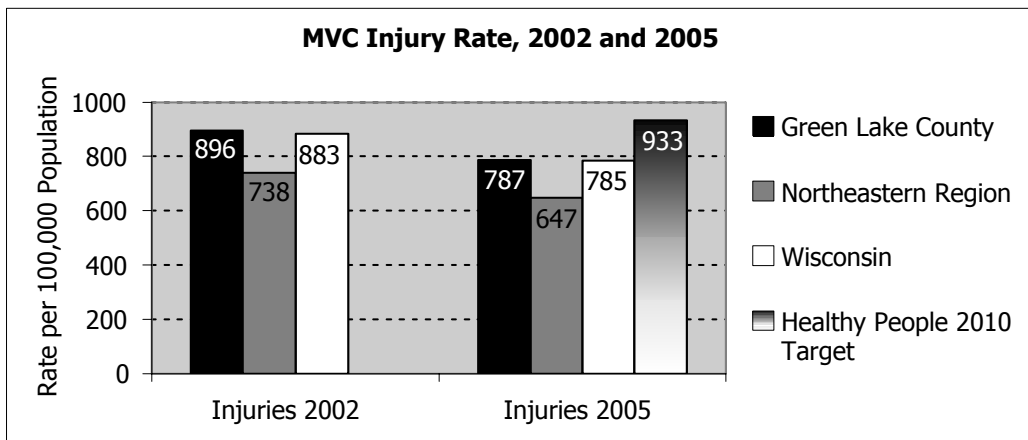
*Healthy People 2010* targets rates of 4 deaths and 65 injuries per year per 100,000 population due to alcohol-related MVC. In 2004, Green Lake County's rates were 10.3 deaths and 93.1 injuries due to alcohol-related MVC per 100,000 population (WDHFS 2004).



Source: WDHFS 2004

### Motor Vehicle Crash Injuries

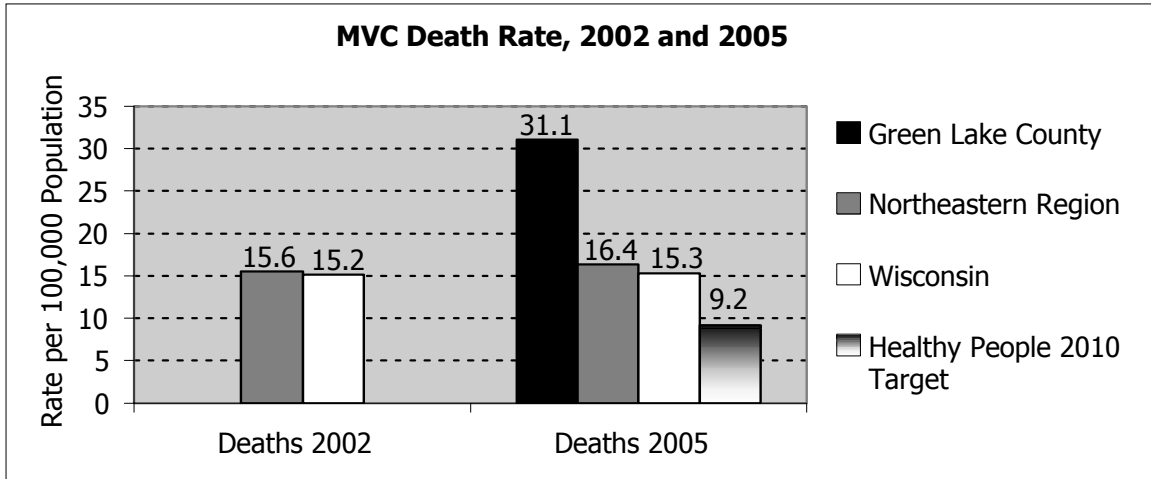
Injuries due to MVC decreased for the county, region, and state from 2002 to 2005 (WDHFS 2007). *Healthy People 2010* targets a 21% improvement in MVC injuries, which makes Green Lake County's target 622 injuries per 100,000 population (USDHHS 2007).



Source: USDHHS 2007, WDHFS 2007

**Motor Vehicle Crash Deaths**

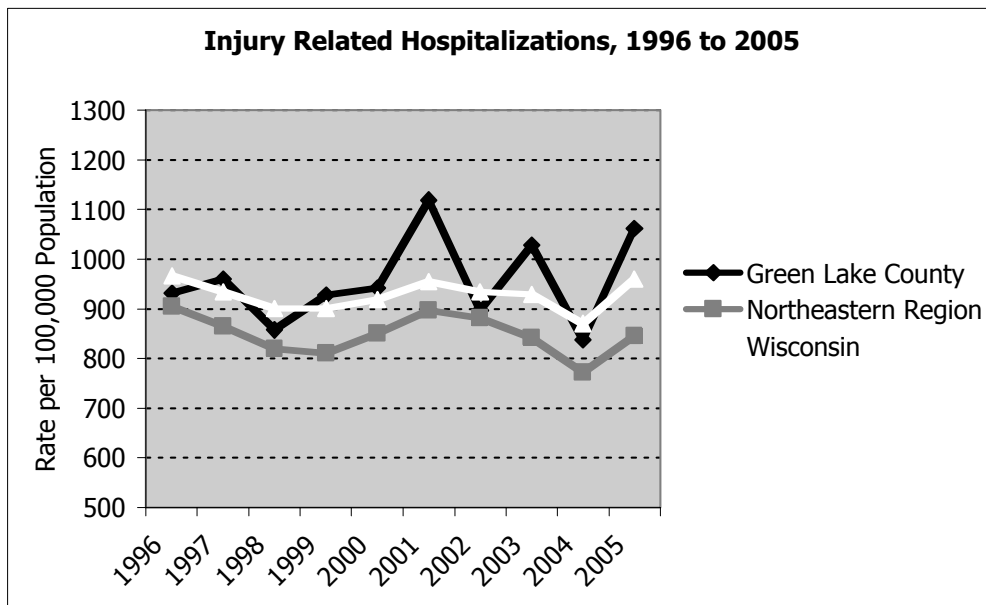
In 2002, there were fewer than 5 total deaths due to MVC in Green Lake County. In 2005, the rate of deaths due to MVC was substantially higher in the county than the state (+14.7) and the region (+15.8) (WDHFS 2007). The *Healthy People 2010* target rate for deaths due to MVC is 9.2 (USDHHS 2007), 21.9 deaths per 100,000 population lower than the county's current rate. In 2006, Green Lake County ranked 22<sup>nd</sup> lowest in the state for number of MVC deaths (UWPHI 2006a).



Source: USDHHS 2007, WDHFS 2007

**Hospital Admissions Classified as Injuries**

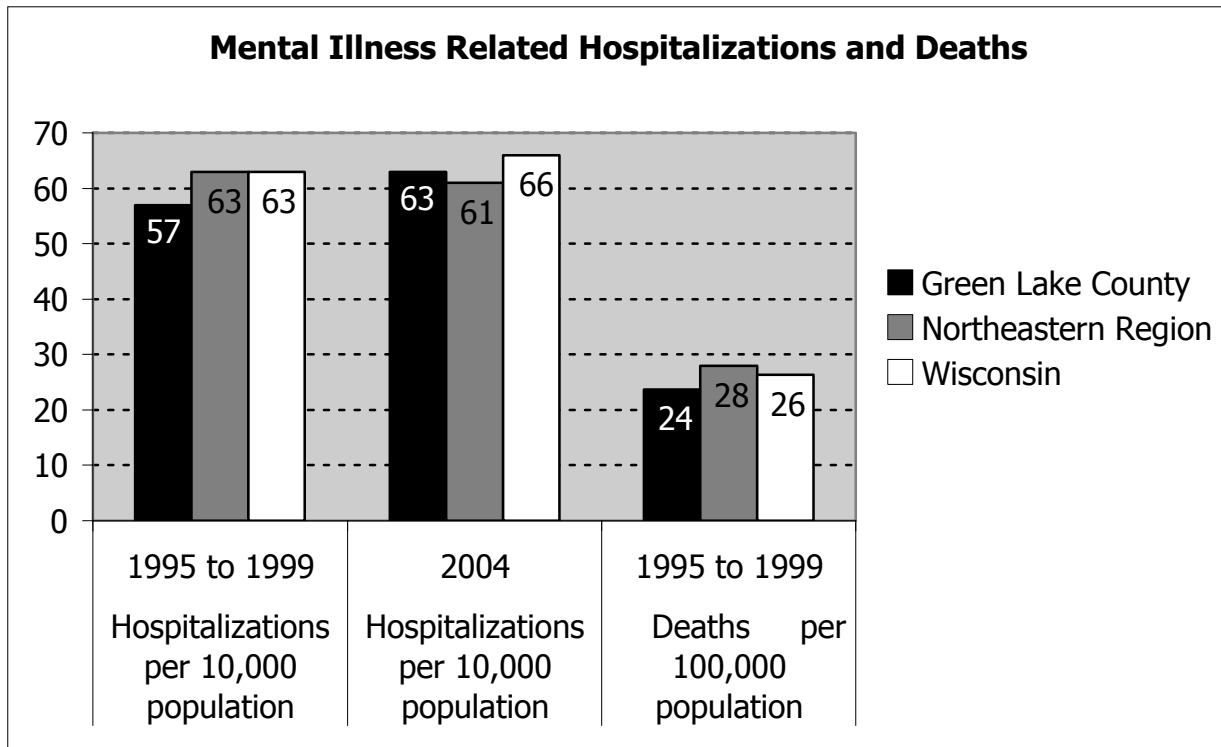
In Green Lake County since 2002, the three leading causes of injury-related hospitalizations continue to be falls (50.7% of injury admissions), poisonings (7.8% of injury admissions), and motor vehicle crashes (5.4% of injury admissions). 90.7% of injury-related admissions were due to unintentional injuries. Green Lake County continues to report more injury hospitalizations than the Northeastern Region, and generally more than the state (WORH 2002, WDHFS 2007).



Source: WDHFS 2007

### Mental Illness Related Hospitalizations and Deaths

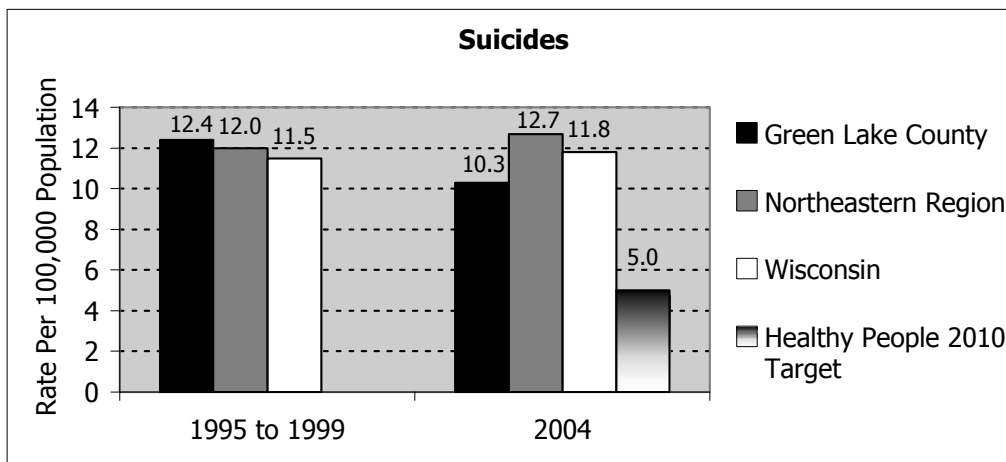
From 1995-1999 to 2004, the number of mental health related hospitalizations increased (+6 per 10,000 population) in Green Lake County. The same rate for the state increased slightly (+3 hospitalizations per 10,000 population) and slightly decreased in the Northeastern region (-2 hospitalizations per 10,000 population) (WORH 2002). The mental health mortality rate was not available for 2004 (WDHFS 2004).



WDHFS 2004, WORH 2002

### Suicides

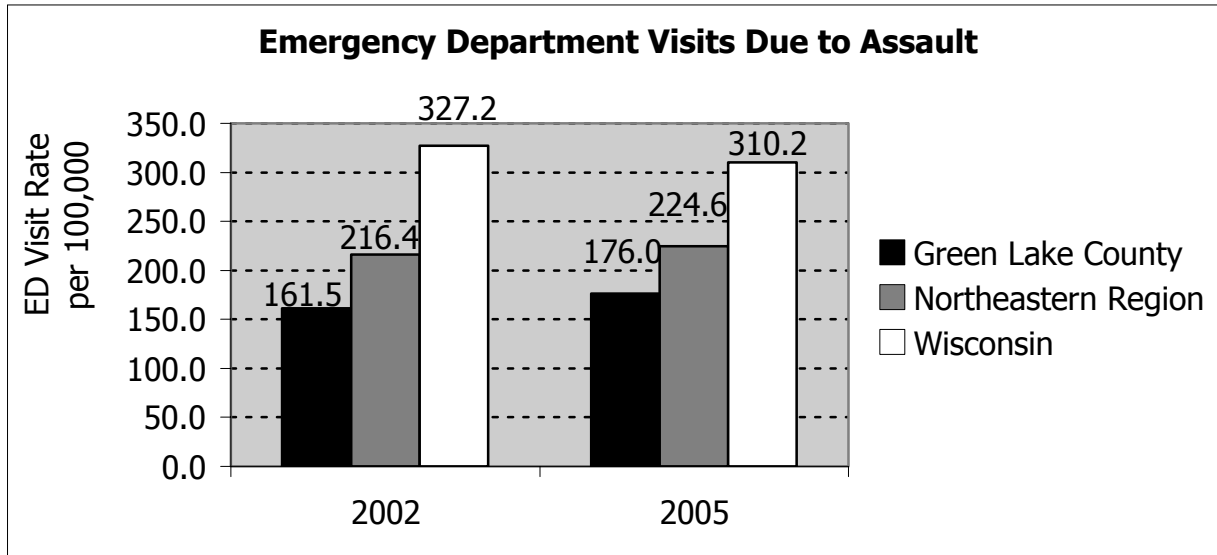
By 2004 the suicide rate (suicides per 100,000 population) in Green Lake County (10.3) had decreased (-2.1) since the late 1990s. However, like the northeastern region (12.7) as well as the state (11.8), 2004 suicide rates are still well above the *Healthy People 2010* goal of 5 suicides per 100,000 population (USDHHS 2007, WDHFS 2004, WORH 2002).



Sources: USDHHS 2007, WDHFS 2004, WORH 2002

### Violent Crimes

From 2002 to 2005, there was an increase of +14.5 (per 100,000 population) Emergency Department visits due to assault for Green Lake County residents. This rise, however, still keeps the county below both state and regional rates for 2005 (WDHFS 2007).



Source: WDHFS 2007

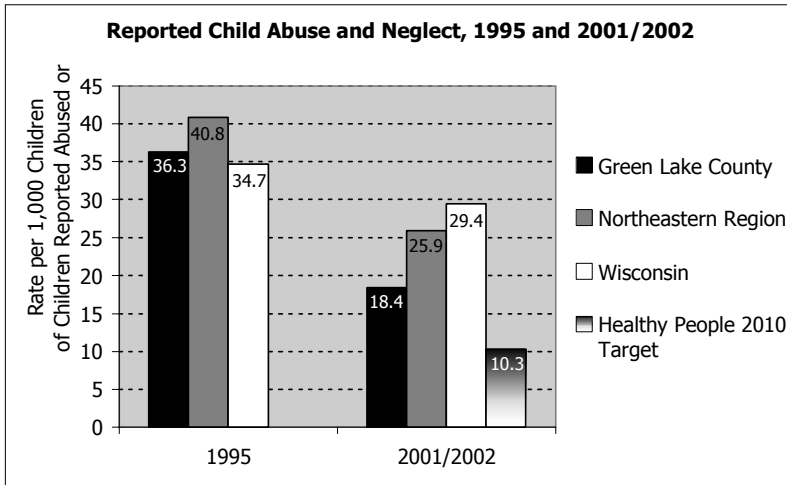
Green Lake County's rate of death due to assault and/or homicide also remains below the same rate for the state and the region (WDHFS 2007). In 2006, Green Lake County's violent crime rate ranked 37<sup>th</sup> out of 73 in the state (UWPHI 2007).



Source: WDHFS 2007

### Child Abuse and Neglect

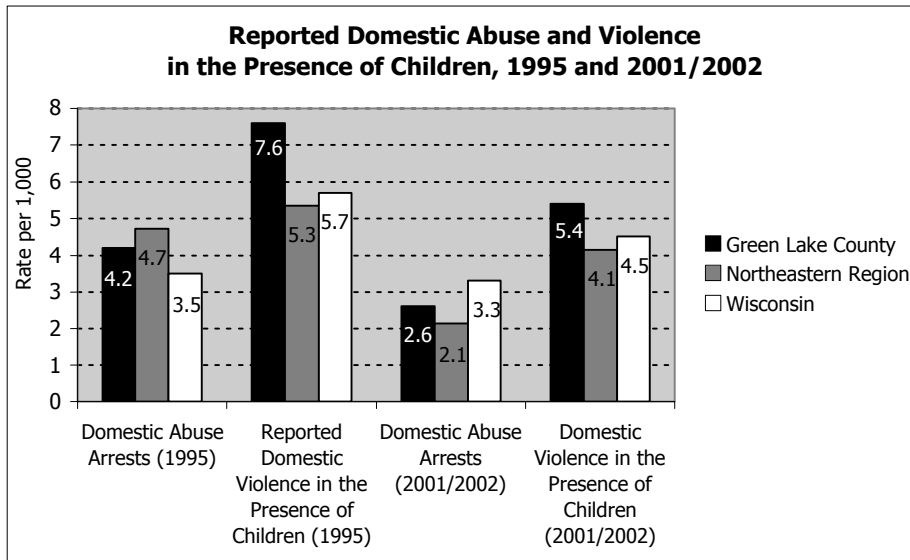
A historical comparison shows that Green Lake County's rate of child abuse and neglect reports generally increased from 1991 to 1998 (WORH 2002). The same rate fell for the county, the Northeastern Region, and the state from 1995 to 2001/2002 (WCCF 2003). In 2001/2002, Green Lake County had fewer reports of child abuse and neglect than both the region (-7.5 and -11 reports per 1,000 children respectively). Although Green Lake County's rate of reported child abuse and neglect fall well below the rates for both the region and the state, it is still above the *Healthy People 2010* Target by +8.1 reports per 1,000 children.



Source: WCCF 2003

### Domestic Abuse and Violence in the Presence of Children

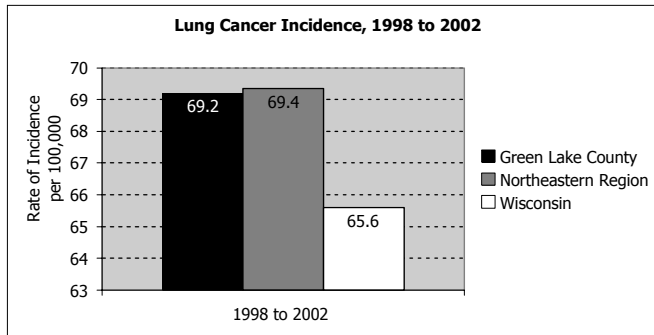
In 1995, Green Lake County had a higher rates of domestic abuse arrests (+0.7) and reported domestic violence in the presence of children (+1.9) than the state of Wisconsin. By 2001/2002, both rates domestic abuse arrests and domestic violence in the presence dropped for the county, region, and state, and while the county dropped below the state in arrests (-0.7), it still led the region (+1.3) and the state (+0.9) in domestic violence in the presence of children (WCCF 2003).



Source: WCCF 2003

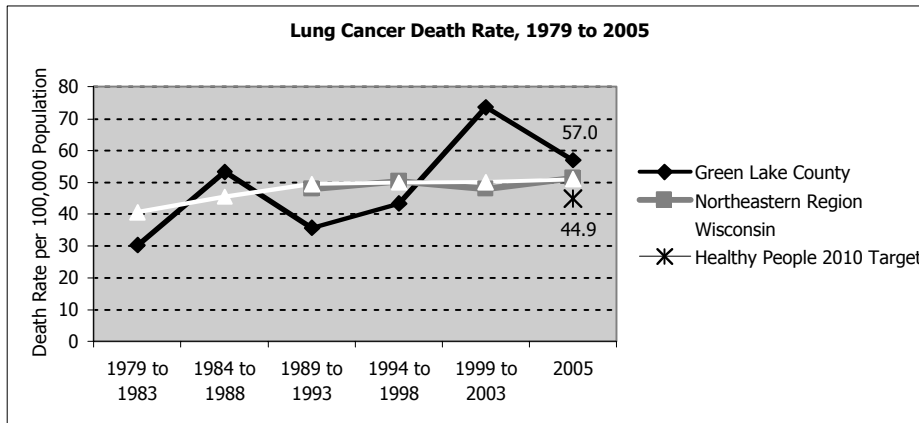
## Lung Cancer Incidence and Deaths

From 1998 to 2002, the rate of lung cancer incidence for both Green Lake County and the Northeastern region exceeded the same rate for the state (WDHFS 2005c).



Source: WDHFS 2005c

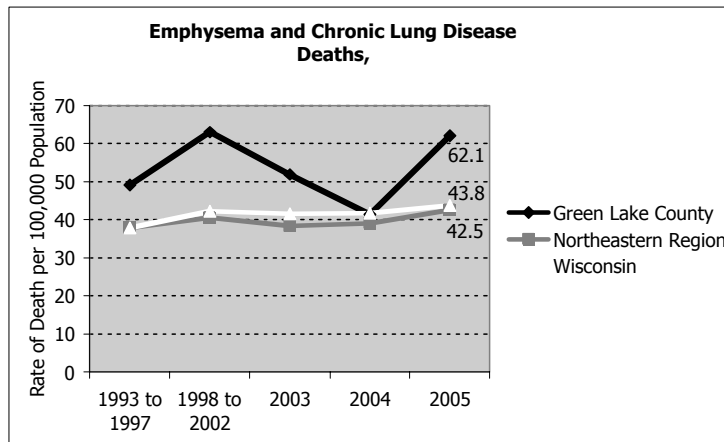
Though the lung cancer death rate has fallen in Green Lake County from the 1999-2003 average to 2005, it is still slightly above the rate for the region and the state (+5.7 and +6.0 deaths per 100,000 population, respectively), and well above the *Healthy People 2010* target, +12.1 (USDHHS 2007, WDHFS 2005c, WDHFS 2007).



Sources: USDHHS 2007, WDHFS 2005c, WDHFS 2007

## Emphysema and Chronic Lung Disease Deaths

In Green Lake County from 1993 to 1997, there was an average of 10 annual emphysema and chronic lung disease related deaths (WORH 2002). From 1998 to 2002, the average was 12.2 deaths per year (WDHFS 2007). With the exception of a drop in 2004, Green Lake County has had a much higher rate of death due to emphysema and chronic lung diseases than both the Northeastern Region and the state. In 2005, the county's rate was +18.3 the rate of the state, and +19.6 the rate of the region (WDHFS 2007).

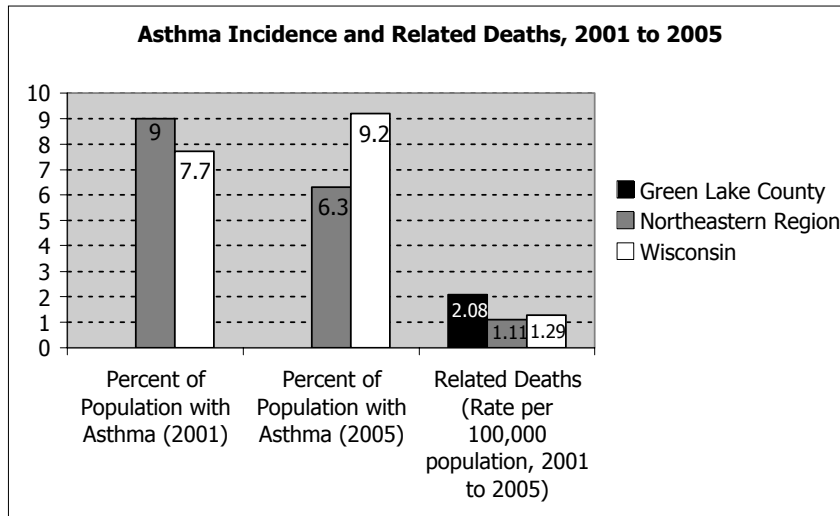


Sources: WDHFS 2007, WORH 2002

## Asthma Rates

Asthma is a chronic lung disease characterized by inflammation of the airways and recurring attacks of symptoms such as wheezing, coughing, chest tightness and shortness of breath. It is one of the most common chronic diseases of children in the United States, the third leading cause of preventable hospitalizations, one of the leading causes of school absenteeism, and the leading work-related lung disease. Asthma rates have increased dramatically over the last thirty years in all populations in the United States. (Wisconsin Department of Health and Family Services)

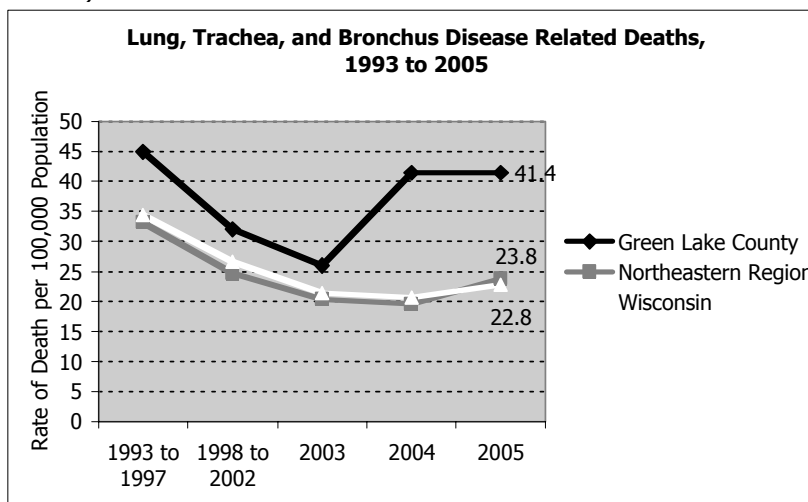
From 2001 to 2005, Green Lake County had a higher rate of deaths due to asthma than both the Northeastern Region and the state (+0.97 and +0.79 annual deaths per 100,000 population, respectively) (WDHFS 2007). Behavioral Risk Factor Data is not currently available for Green Lake County. It was estimated for the years 1994 to 1998 that 10% of the population of Green Lake County was affected by asthma. This estimate is slightly higher than those of both the state (7%) and the Northeastern Region (6%) (WORH 2002).



Sources: WDHFS 2005, WDHFS 2007

## Lung, Trachea, and Bronchus Disease Deaths

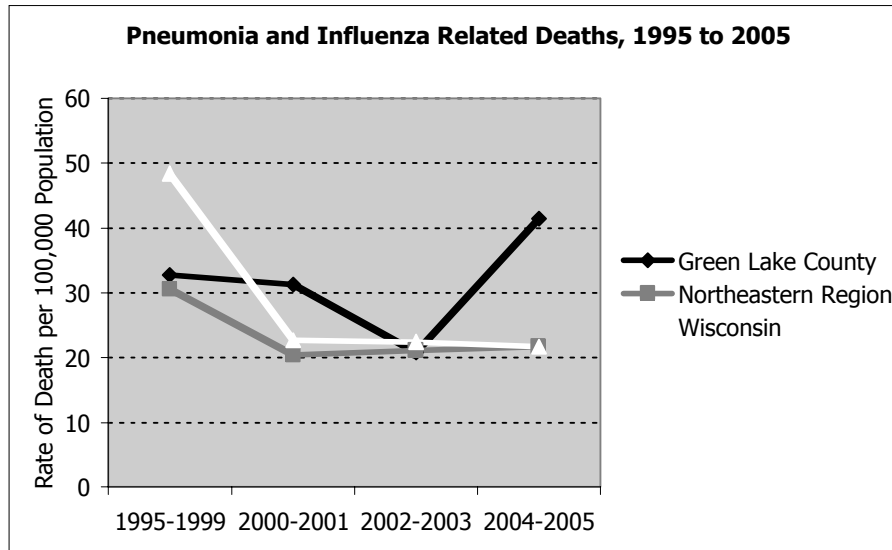
In Green Lake County from 1993 to 1997, there was an annual average of 10 lung, trachea, and bronchus disease related deaths (WORH 2002). From 1998 to 2002, the average number of deaths was 7.2. In 2005, the county continued to report a greater rate of deaths due to lung, trachea, and bronchus disease than both the Northeastern Region (+17.6 deaths per 100,000 population) and the state (+18.6 deaths per 100,000 population) (WDHFS 2007).



Sources: WDHFS 2007, WORH 2002

### Pneumococcal Infection Deaths

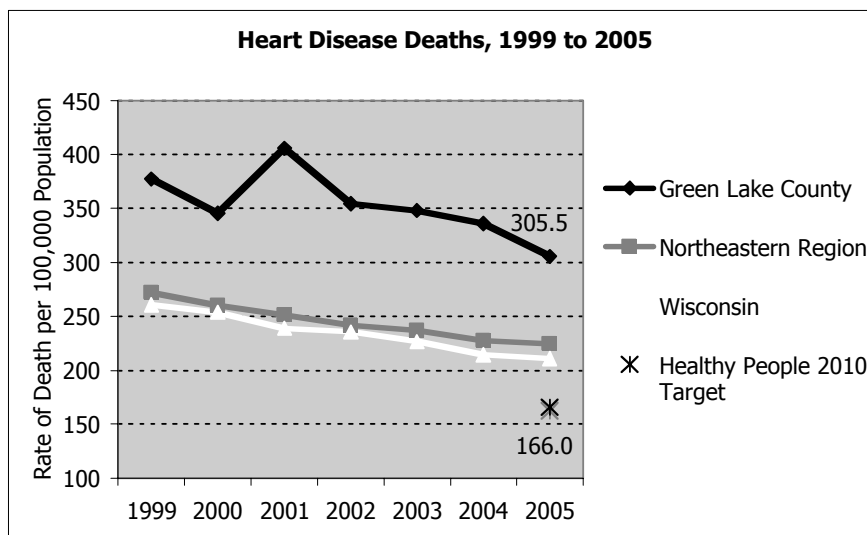
In 2004 and 2005, Green Lake County reported a significantly higher rate of death due to pneumonia and influenza than both the Northeastern region and the state (+19.7 each), a sharp increase from past years (WDHFS 2007).



Source: WDHFS 2007

### Heart Disease Deaths

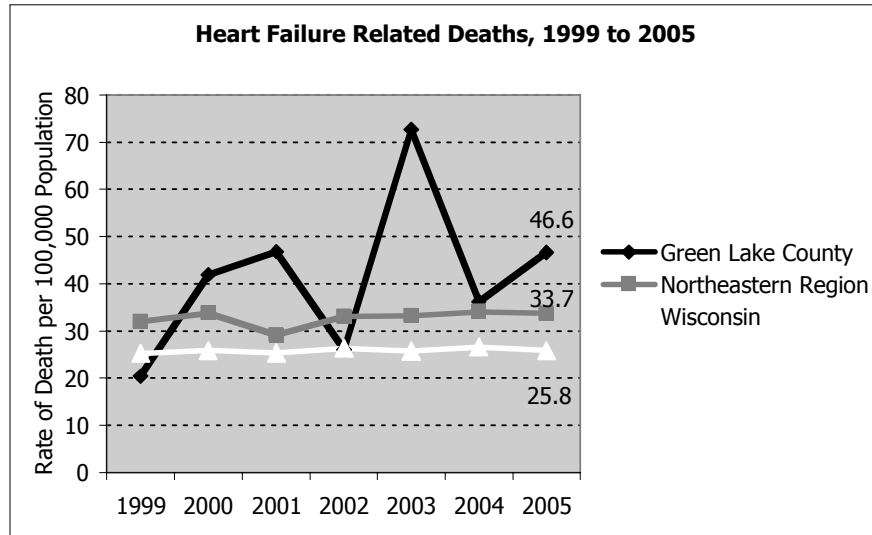
While the rate of deaths due to heart disease has been declining in Green Lake County since a peak in 2001, county rates remain well above the rates for the Northeastern region and the state of Wisconsin (+81.1 and +94.5 deaths per 100,000 population respectively) (WDHFS 2007). In order to meet the *Healthy People 2010* target of 166 deaths per 100,000 population per year, Green Lake County needs to reduce its rate (305.5) by almost half (USDHHS 2007). Deaths due to congestive heart failure are included in these figures.



Source: WDHFS 2007, USDHHS 2007

### Congestive Heart Failure Deaths

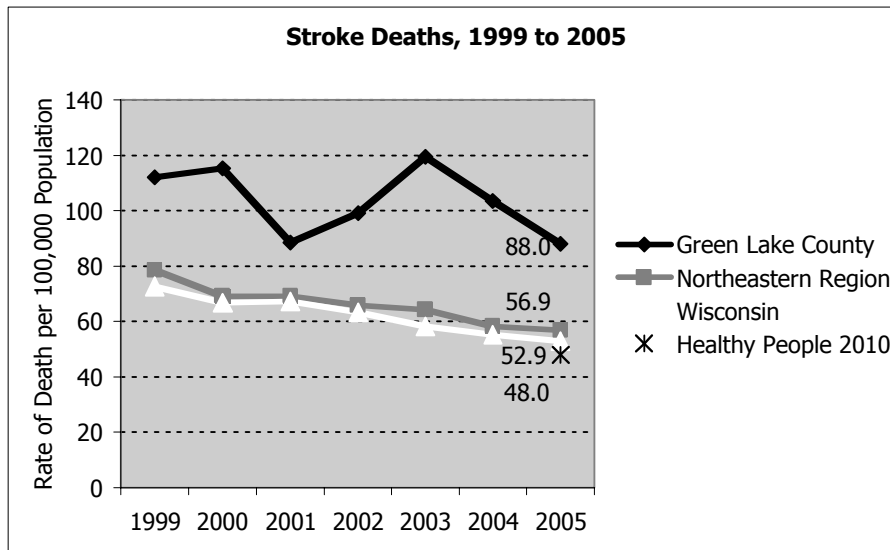
In Green Lake County, from 1995 to 1999, the average number of deaths due to congestive heart failure was 8, which translates to a rate of between 40 and 50 deaths per 100,000 population (WORH 2002). The county's rate dropped in 1999 to below the rate for both the Northeastern region and the state, but rose again in 2000 and has generally stayed above region and state levels, except in 2002, with a peak in 2003. In 2005, the county's rate was +12.9 the rate of the Northeastern Region, and +20.8 the rate for the state of Wisconsin (WDHFS 2007).



Source: WDHFS 2007

### Stroke Deaths

In Green Lake County, from 1995 to 1999 the average rate of stroke related death was 115.3 per 100,000 population. From 1999 to 2005, this rate fluctuated but continues to be higher than both the Northeastern region and the state. In 2005, the county's rate was +31.1 from the regional rate and +35.1 from the state's (WDHFS 2007). The county is well above the *Healthy People 2010* target of 48 stroke deaths per year per 100,000 population (USDHHS 2007).



Sources: USDHHS 2007, WDHFS, 2007

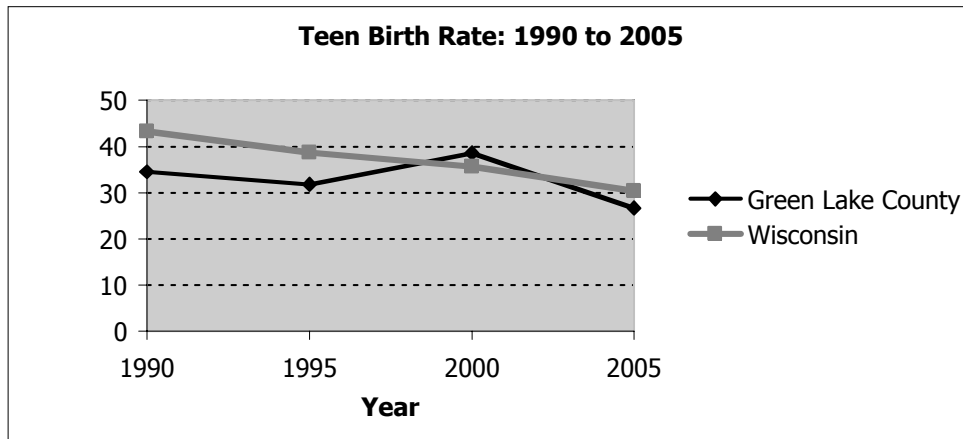


## Teen Births

*Teen Birth Rate: the number of births to teens 15-19 in a given year divided by the female population ages 15-19 (per 1,000). This rate does not include births to mothers less than 15 years old -- Wisconsin Department of Health & Family Services, 2006*

After hitting a ten year high in 2000, Green Lake County's teen birth rate (27.8) fell again to below the rate for both the state (-3.0) and the nation (-3.8) in 2005. Wisconsin's state teen birth rate has been gradually declining for the last fifteen years.

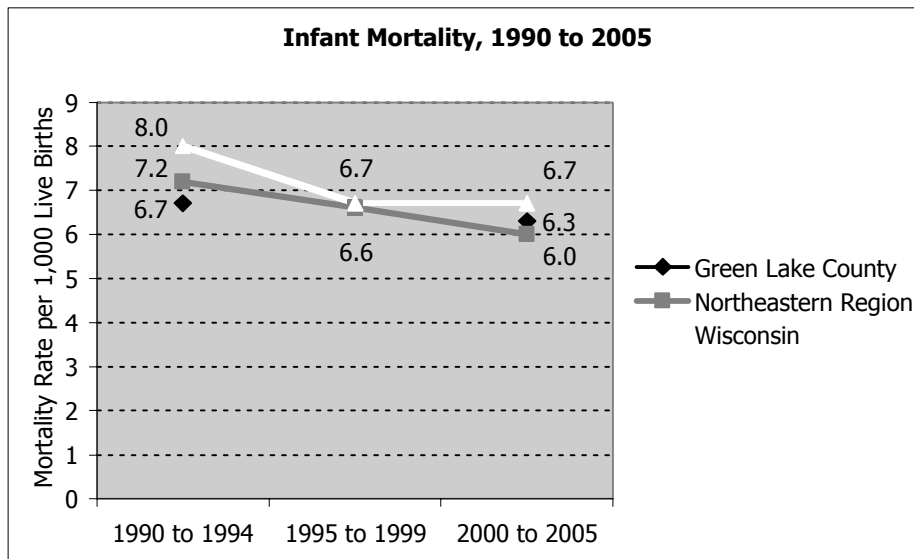
In 2006, Green Lake County had the 39<sup>th</sup> lowest teen birth rate in the state (out of all 72 Wisconsin counties and the City of Milwaukee) (UWPHI 2006).



Source: WDHFS 2006c.

## Infant Mortality

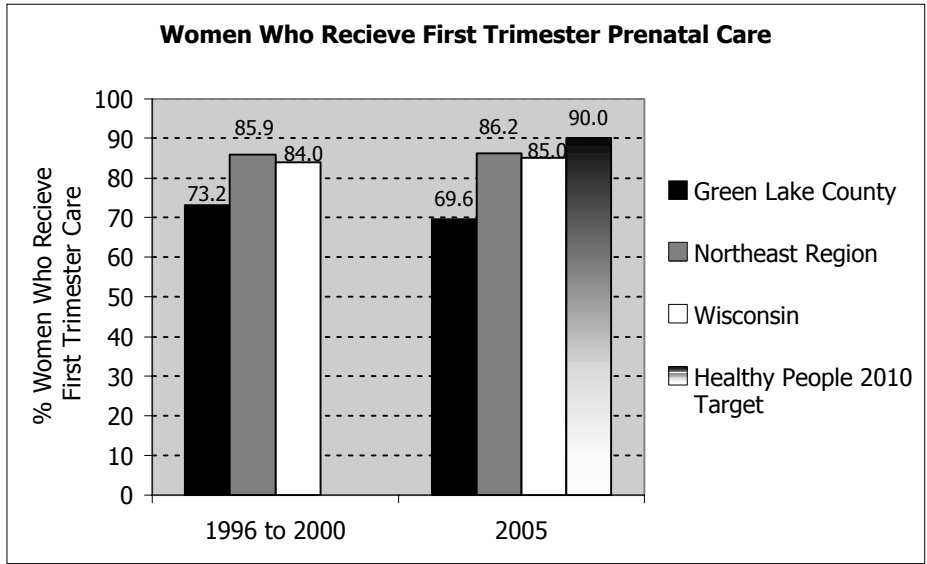
Infant (less than 1 year old) mortality has been generally decreasing in the US and the state of Wisconsin since the mid 1980s. Within the state, rates are also generally falling. From 1990 to 1994, Green Lake County reported a rate of 6.7 infant deaths per 1,000 live births, a rate below both the Northeastern region (-0.5) and the state (-1.3). Since there were fewer than 5 deaths from 1995 to 1999, the county's rate is not reportable. From 2000 to 2005, the county's rate fell between the rates for the region and the state (WDHFS 2007).



Source: WDHFS 2007

### First Trimester Prenatal Care

In 2005, 69.6% of pregnant women in Green Lake County received prenatal care in their first trimester, a decrease from 73.2% from 1996 to 2000. In 2005, the percentage of first trimester prenatal care in Green Lake County continues to fall below the percentages for the northeastern region (86.2%) and the state (85.0%), as well as the *Healthy People 2010* target of 90.0% (USDHHS 2007, WDHFS 2007, WORH 2002).

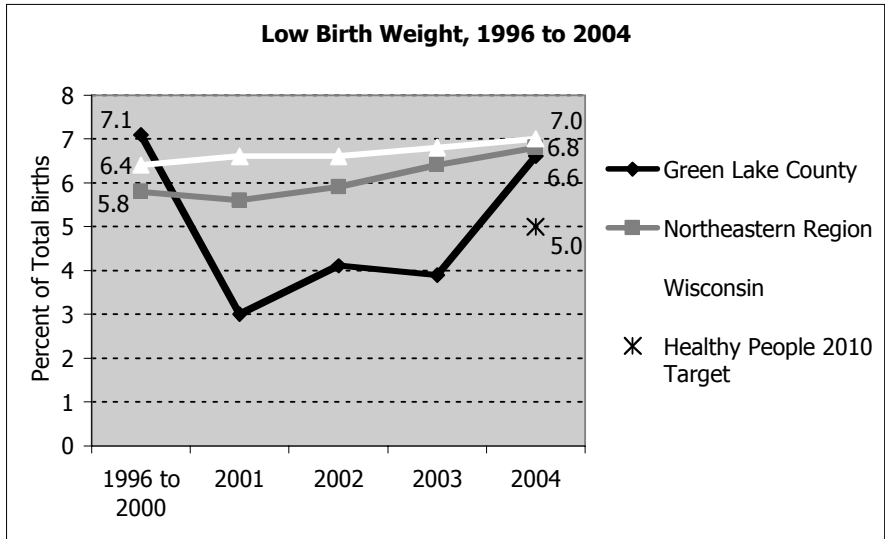


Sources: USDHHS 2007, WDHFS 2007, WORH 2002

### Low Birth Weights

*Low Birth Weight – Less than 2,500 grams (5.5 lbs)*

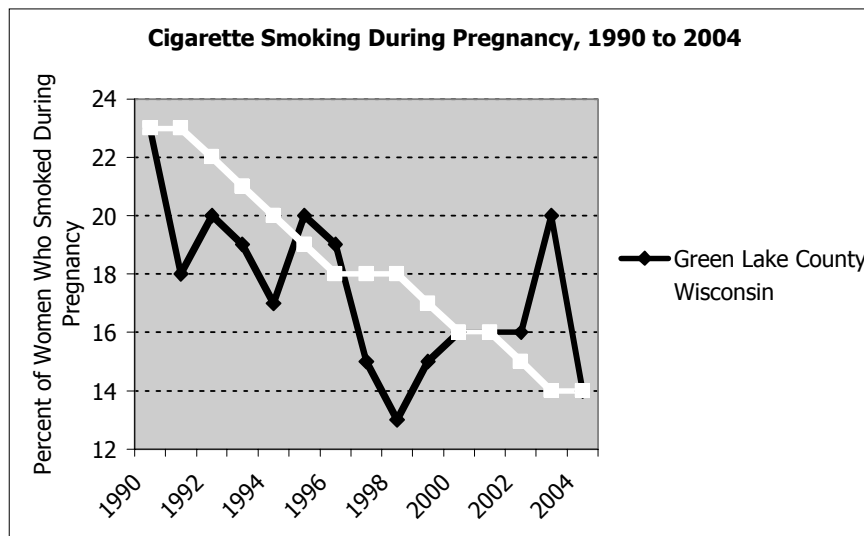
The percent of low birth weights in Green Lake County was above the percent for the Northeastern Region (+1.3 percentage points) and the state (+0.7 percentage points) in the late 1990s (WORH 2002). After a drop in 2001, the county’s percent of low weight births has remained well below the percent for the region and the state until an increase in 2004, when the percent for the three regions was comparable (WDHFS 2007). In 2004, the percent of low weight births in Green Lake County was 2 percentage points above the *Healthy People 2010* target of 5%.



Sources: WDHFS 2007, WORH 2002

## Smoking During Pregnancy

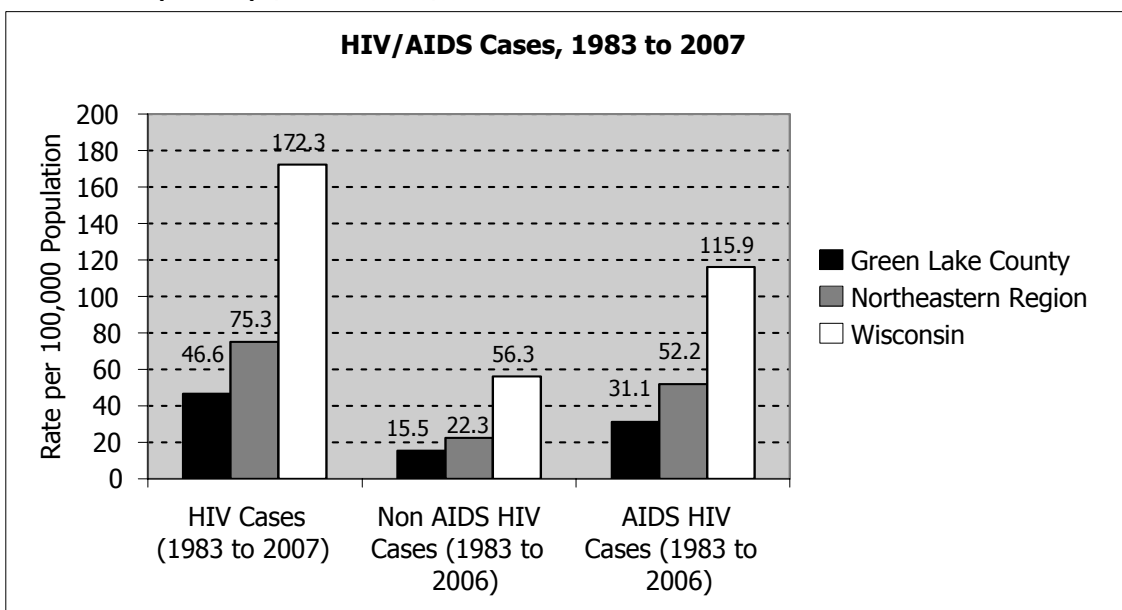
In Green Lake County in 2005, 36 (14%) women reported having smoked during their pregnancy (GLCDHHS 2005). According to the UW Population Health Institute 2007 report, 17.1% of women reported smoking during pregnancy, as opposed to a 14.1% rate statewide.



Sources: WDHFS 2004, WORH 2002

## AIDS/HIV Infections

The rate of HIV cases per population is lower in Green Lake County than both the Northeastern Region (-28.7) and the state (-125.7) (WDHFS 2007b).



Source: WDHFS 2007b

## Sexually Transmitted Infections (STIs)

In 2005, Green Lake County had 40 reportable cases of STIs: 30 cases of chlamydia, 1 case of gonorrhea, 0 cases of syphilis, and 9 cases of genital herpes (WDHFS 2005d.) In 2006, Green Lake County ranked 47<sup>th</sup> in STI (chlamydia, gonorrhea, syphilis, and genital herpes) rate and in 2005 it ranked 31<sup>st</sup>(UWPHI 2005, 2006a).

## Data Collection

The data reported in this profile was collected in a variety of ways and are compared in a variety of ways. In most cases, county-level data is compared to regional, state, or national data. However, since raw numbers cannot be used to compare populations of varying sizes, rates which have been calculated using common denominators are reported instead in many sections in order to appropriately compare areas with varying population sizes.

### 1. County vs. Region vs. State

The State of Wisconsin is divided into five regions for this purpose: Northern, Northeastern, Southeastern, Southern and Western. Green Lake County is part of the Northeastern region, and is included in Northeastern region data that is included in this report. The counties in the Northeastern region are:

- Brown, Calumet, Door, Fond du Lac, Green Lake, Kewaunee, Manitowoc, Marinette, Marquette, Menominee, Oconto, Outagamie, Shawano, Sheboygan, Waupaca, Waushara, Winnebago.

### 2. County Cluster vs. Region vs. State

Some data was also collected for Green Lake County as part of a four-county cluster made up of the following four counties:

- Green Lake, Marquette, Waupaca, Waushara

### 3. Actual vs. Expected Morbidity and Mortality

The State of Wisconsin reports data based on the actual prevalence of disease and deaths from diseases for each county. Data from these sources are reported in actual cases as opposed to expected cases.

### 4. Wisconsin County Health Rankings

Whenever possible, Green Lake County's Health Ranking is reported. These rankings come from the University of Wisconsin School of Medicine and Public Health, who compared data sets for each of 72 counties in the state of Wisconsin plus the city of Milwaukee, and gave each a ranking out of 73. In these comparisons, a rank of 1 is the most healthy and 73 is the least healthy.

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## **Select Key Findings of Need**

**(Aurora Health Care)**

- 71% cholesterol test (4 years ago or less) vs. 80% HP2010
- 70% pneumonia vaccination (ever, 65k+) vs. 90% HP2010
- 57% flu shot (past year, 65+) vs. 90% HP2010
- 28% HBP vs. 16% HP2010
- 70% overweight vs. 40% HP2010
- 37% moderate physical activity (recommended amount) vs. 50% HP2010
- 14% vigorous activity (recommended amount) vs. 30% HP2010
- 60% fruit 2 servings vs. 75% HP2010
- 25% vegetable 3 servings vs. 50% HP2010
- 34% blood stool test vs. 50% HP2010
- 28% adult helmet usage
- 22% current smokers vs. 12% HP2010
- 40% tried to quit smoking past year vs. 75% HP2010
- 24% binge drinkers vs. 6% HP2010



## **Health Care Priorities Based on *Turning Point***

Health priorities identified in *Healthiest Wisconsin 2010: A Partnership Plan to Improve the Health of the Public*, are the result of a two-year process, known as Turning Point, which was partially funded by the Robert Wood Johnson Foundation. A significant piece of the Turning Point process was to identify eleven health care priorities. These priorities were constructed to have the greatest leverage for improving health conditions for all Wisconsin residents.

Each priority has more than one health indicator; for example, lung cancer incidence and deaths, heart disease incidence and deaths, and stroke incidence and deaths are all taken into consideration when determining the impact of the priority of Tobacco Use and Exposure. Also, each health indicator may be taken into account by more than one priority; for example, lung cancer incidences and deaths are taken into consideration for both Tobacco Use and Exposure and Environmental and Occupational Health Hazard priorities.

# Wisconsin's Health Priorities - 1

## Access to Primary and Preventative Health Services

### **Definition**

Access means that primary and preventative health care services are available and organized in a way that makes sense to individuals and families. Access means that people have the resources, both financial and non-financial, needed to obtain and use available services. Accessible health care includes an infra-structure supporting a range of health services with the capacity to reach diverse people and adapt to the specific access issues that differ in communities.

### **Impact**

When individuals and groups lack access to primary and preventive health care, critical opportunities are lost for the promotion of healthy lifestyle behaviors and for early diagnosis and treatment of health problems. Lack of access to care results in short and longer term adverse health consequences, including:

- Higher mortality rates and years of productive life lost
- Greater rates of more advanced and difficult to treat disease (e.g., heart, cancer, and stroke)
- Increased rates of preventable disease (e.g., dental and osteoporosis)

### **Health Indicators**

- Breast Cancer Incidence, screenings, (mammograms), deaths
- Cervical cancer incidence, screenings (pap tests), deaths
- Diabetes incidences, hospitalizations, deaths
- Blood pressure screenings
- Suicides
- First trimester prenatal care
- Lack of health care coverage
- Dental care
- Medicaid recipients
- Physician and dentist workforce
- Preventable hospitalizations
- Vulnerable populations

*Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 41

## **Wisconsin's Health Priorities - 2**

### **Adequate and Appropriate Nutrition**

#### **Definitions**

1. Adequate nutrition refers to food security. This means Wisconsin residents have access at all times to nutritious and safe foods. They can obtain these foods in socially acceptable ways – that is, through regular sources and not through emergency coping strategies such as food pantries.

2. Appropriate nutrition refers to food that promote overall good health. Nutritious foods contribute to the healthy birth outcome for pregnant women and the growth and development of growing infants and children. Nutritious foods, in appropriate amounts, help prevent many chronic diseases related to diet and weight.

#### **Impacts**

1. An inadequate diet and weight gain during pregnancy are associated with babies being born too small or too early. An inadequate intake of folic acid before pregnancy can lead to spina bifida, a serious birth defect in infants. Good nutrition, including breastfeeding, during periods of rapid growth promotes healthy brain development and better prepares children for school incidence of neural tube defects by up to 70 percent.

2. Childhood hunger, or the inadequate intake of nutrients during the early years, has an impact on the behavior of children, their school performance, and their overall cognitive development. Deficiencies in iron have an immediate effect on the ability to concentrate. Iron deficiency anemia puts children at higher risk for blood lead poisoning.

3. The growing concern about unhealthy diets, in large part, is related to the burden of chronic disease. Unhealthy diets, such as those high in fat, low in fiber, and low in fruits and vegetables, are associated with an increased risk for the top three causes of death in the country: heart disease, cancer, and stroke. Unhealthy diets can also lead to overweight and obesity, hypertension, diabetes, and osteoporosis.

*Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 45

#### **Health Indicators**

- Diabetes Incidence, Hospitalizations, and Related Deaths
- Overweight and Obesity
- Cholesterol Screenings
- Women, Infants, Children (WIC) Services
- Free/Reduced Lunch and Breakfast Program Recipients
- FoodShare (Food Stamp) Program Participation

## Wisconsin's Health Priorities -3

### Alcohol and Other Substance Use and Addiction

#### **Definitions**

**Inappropriate Use:** the use of a substance in a manner that exceeds the safe or prescribed amount and frequency or poses a health or safety risk to the user or others. Examples of inappropriate use include use during pregnancy, intoxicated driving, drinking to incapacitation, underage drinking, or heavy or immoderate drinking. It also includes the infrequent or experimental use of illegal street drugs.

**Abuse:** Use resulting in a pattern of negative consequences such as school or work absences, neglect of children, legal problems, or heated arguments with spouse.

**Dependence:** Use leading to a pattern of clinically significant impairment in at least 3 areas such as tolerance, withdrawal symptoms, inability to cut down or control use, or use despite physical or psychological problems. In addition to being a social disorder, dependency is also a physical disorder resulting in the progressive impairment of the body that affects performance of vital bodily functions such as the brain, liver, peripheral nervous system, pancreas, stomach, and heart. Recent research on addiction as a genetic and brain disease suggests that many addicts are strongly predisposed to having little control over their use.

**Dementia:** Memory, language, emotional, or motor impairment and other cognitive deficits resulting from chronic substance abuse.

**Substance:** In general, included substances are those that are considered to be habit-forming and mind-altering such as:

- Alcohol (e.g., beer, wine, hard liquor, coolers)
- Pain killers (e.g., opiates, heroin, dilaudid, codeine, morphine, oxycodone)
- Tranquilizers (e.g., muscle relaxants, diazepam, valium, flurazepam, meprobamate, equanil)
- Sedatives (e.g., sleeping pills, barbiturates, methaqualone, chloral hydrate)
- Stimulants (e.g., cocaine, crack, speed, methamphetamine, ice, amphetamines, benzedrine, phendimetrazine)
- Hallucinogens (e.g., marijuana, LSD, PCP, psilocybin)
- Inhalants (e.g., glue, aerosols, solvents, nitrous oxide)

*Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 49

#### **Health Indicators**

- Alcohol and Drug Related Deaths
- Liver Disease Deaths
- Mental Illness Related Hospitalizations and Deaths
- Suicides
- Violent Crimes
- Alcohol Consumption Rates
- Drinking and Driving Rates
- Motor Vehicle Crash Injuries and Deaths

## Wisconsin's Health Priorities – 4

### Environmental and Occupational Health Hazards

**Definition:** Exposure to toxic substances, noise, vibration and other hazardous agents in the environment or the workplace that can create or aggravate health conditions. (Note: Hazards that result in injury are considered in a separate health priority as Intentional and Unintentional Injuries and Violence.)

#### **Impact:**

Water Quality Maintaining a safe and plentiful supply of drinking water is critical to good health. Water supplies are subject to contamination from both naturally occurring substances (such as arsenic and radium) and chemical pollutants from man-made sources such as petroleum storage tanks and industrial facilities. Nitrate and pesticides may enter water supplies as a result of agricultural practices, and declining water tables in several areas in Wisconsin suggest that the availability of high-quality drinking water may be limited in the future.

Air Quality Air pollution remains an important health concern in Wisconsin. The incidence of asthma, a respiratory condition commonly attributed to environmental and occupational exposures, has increased sharply in the past two decades. Research showing increased death rates in major population centers on days with high concentrations of ambient particulate matter suggests that continuing efforts toward pollution prevention may be of significant benefit for public health.

Occupational Disease Occupational disease can have a significant impact on an employee's quantity and quality of life. Cancer, pneumoconiosis, tuberculosis and hearing loss related to exposure to chemicals, asbestos, crystalline silica and other dusts, bacterial and viral agents, and high noise levels can be avoided with training and proper personal protective equipment. To have an impact with these diseases, it is vital to educate employers and employees about the proper equipment to use for each type of exposure and the importance of using the equipment. *Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 54

#### **Health Indicators**

- Lung Cancer Incidence and Deaths
- Asthma Rates
- Food and Water Borne Illness
- Air Quality
- Water Fluoridation
- Environmental Contacts by the Public Health Department

## Wisconsin's Health Priorities – 5

### Existing, Emerging, and Re-emerging Communicable Diseases

#### **Definition**

Emerging communicable diseases may result from changes in or evolution of existing organisms; or diseases that are known to occur in one setting may spread to new geographic areas or human populations. Previously unrecognized infections may appear in persons living or working in areas undergoing ecologic changes (e.g., deforestation) that increase human exposure to insects, animals, or environmental sources that may harbor new or unusual infectious agents.

Communicable diseases reemerge by developing antimicrobial resistance (e.g., gonorrhea, pneumococci) or when the public health measures that originally brought them under control are reduced or eliminated (e.g., tuberculosis, and pertussis).

#### **Impact**

The objective of intensified surveillance for new and re-emerging infectious diseases is to detect them early and to inform the public about how to reduce their risks of becoming infected. Wisconsin's ability to perform as a leader in detection and response to emerging and reemerging infectious diseases has largely been the result of the astute observations of laboratorians, clinicians, public health epidemiologists, and even veterinarians working within the state. Despite the perceptive skills of these individuals, Wisconsin has no comprehensive system for detecting outbreaks of infectious diseases except for food and waterborne diseases. Outbreaks of illnesses that are not on the current list of reportable diseases may go undetected or may be detected only after an outbreak is well under way. Emerging infectious diseases, with the exception of those reportable diseases that may re-emerge, are not usually detected through established surveillance activities. In addition to enhanced communication with traditional partners, identification of non-food- or waterborne outbreaks will require fostering communication with non-traditional partners who are in a unique position to detect unusual disease occurrences. This may include employee health nurses, pharmacists, or ambulance services. Mechanisms for rapid notification of unusual events by traditional and non-traditional disease surveillance partners to individuals who can properly respond are key to enhancement of Wisconsin's current acute and communicable disease surveillance system. *Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 57

#### **Health Indicator Data**

- AIDS/HIV Infections
- Sexually Transmitted Infections
- Food and Water Borne Illnesses
- Pneumococcal Infection Deaths

## **Wisconsin's Health Priorities – 6**

### **High Risk Sexual Behavior**

#### **Definition**

Sexual behaviors, including unprotected sex, that make someone more susceptible to infections or diseases, or that result in unintended pregnancy.

#### **Impact**

The primary risks associated with unprotected sexual behaviors are unintended pregnancies and sexually transmitted diseases. These health conditions significantly affect the health of the public as well as the social and economic well-being of individuals, families, and communities.

– *Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 60.

#### **Health Indicators**

- AODS/HIV Infection
- Sexually Transmitted Infections
- Teen Births
- Infant Mortality

## **Wisconsin's Health Priorities – 7**

### **Intentional and Unintentional Injuries and Violence**

#### **Definition**

Injury: any unintentional or intentional damage to the body resulting from acute exposure to thermal, mechanical, electrical, or chemical energy or from the absence of such essentials as heat or oxygen. There are two classifications of injuries:

- Unintentional injuries: Falls, burns, motor vehicle crashes, poisonings, and drownings.
- Intentional injuries: Violent injury, including suicide, homicides, and assaults such as sexual assault, intimate partner violence, child and elder abuse.

Injuries do not happen by chance. They follow a distinct pattern, like diseases. Injuries are predictable and preventable. Injury occurs because of the interaction of three sources— the host (injured person), the agent (form of energy), and the environment. In Wisconsin more than 2,600 and 2,700 people died from both unintentional and intentional injuries in 1997 and 1998 respectively, which accounted for 6 percent of all deaths. Injuries are the 3rd leading cause of death in the U.S and are the 4th highest category of death by underlying cause in Wisconsin, following cancer, diseases of the circulatory and respiratory systems.

#### **Impact**

Injury is the most under recognized major public health problem facing our country today. Nationally, estimates show the cost of injury annually is approximately \$24 billion for direct medical care, rehabilitation, lost wages, and productivity losses... Regardless of age, gender, race or ethnicity, injury is a threat to all of us. It is the leading cause of death in people ages 1 to 44 both in Wisconsin and across the nation. *Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 63

#### **Health Indicators**

- Mental Illness Related Hospitalizations and Deaths
- Suicides
- Violent Crimes
- Child Abuse and Neglect
- Domestic Abuse and Violence in the presence of Children
- Seat Belt Non-use
- Hospital Admissions Classified as Injuries
- Motor Vehicle Accident Injuries and Deaths

## **Wisconsin's Health Priorities – 8**

### **Mental Health and Mental Health Disorders**

#### **Definition**

Mental health is inextricably linked with physical health and is fundamental to good health and human functioning. Mental health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity. Mental health is indispensable to personal well being, family and interpersonal relationships, and meaningful contribution to community and society.

Mental illness is the term that refers collectively to all diagnosable mental disorders. Mental disorders are health conditions that are characterized by alterations in thinking, mood, or behavior or some combination thereof, which are associated with distress and impaired functioning and result in human problems that may include disability, pain, or death.

#### **Impact**

Mental disorders are real and treatable health conditions. They exact a staggering toll on millions of affected individuals, as well as on their families and communities throughout our state and nation. According to the landmark "Global Burden of Disease" study commissioned by the World Health Organization and the World Bank, mental disorders represent four of the ten leading causes of disability for persons age 5 and older. Among "developed" nations, including the United States, major depression is the leading cause of disability. Tragically, mental disorders are also contributors to suicide, which is one of the leading preventable causes of death in the United States and worldwide. Mental illness can affect young children, adolescents, adults, and older adults of all ethnic and racial groups, genders, and educational and socioeconomic levels. *Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 67

#### **Health Indicators**

- Mental Illness Related Hospitalizations and Deaths
- Suicides
- Violent Crimes
- Domestic Abuse and Violence in the Presence of Children

## Wisconsin's Health Priorities – 9

### Overweight, Obesity, Lack of Physical Activity

#### **Definition**

Body Mass Index (BMI): a mathematical formula that is a ratio of weight and height correlated with body fat (kg/m<sup>2</sup>). BMI is a better predictor of disease risk than body weight alone. Risk of mortality from many chronic conditions increases with a BMI over 25.0.

Normal Weight: between 18.5 and 24.9 BMI

Overweight: between 25.0 to 29.9 BMI

Three separate classes of obesity range from 30.0 to 40.0 BMI.

Level of activity, like obesity, occurs along a continuum. As a guideline, the 1996 Surgeon General's Report on Physical Activity and Health recommends each person accumulate 30 minutes of moderately intensive physical activity for five or more days of the week, minimally 150 minutes a week of activity.

#### **Impact**

Overweight and obesity are common health conditions and their prevalence is increasing nationally and in Wisconsin. Excess weight is associated with an increased incidence of many chronic conditions, such as cardiovascular disease, type 2 diabetes mellitus, hypertension, stroke, dyslipidemia, osteoarthritis, and *selected cancers*. *Obesity has increased in every state, in both sexes, and across all age groups, races, and educational attainments.* *Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 74

#### **Health Indicators**

- Overweight and Obesity
- Diabetes Incidence and Related Deaths
- Heart Disease Deaths
- Stroke Deaths
- Physical Activity

## **Wisconsin's Health Priorities – 10**

### **Social and Economic Factors That Influence Health**

#### **Definition**

The direct relationship between the socioeconomic position of a population and its health is well established. Research studies have clearly documented that people who are socioeconomically better off do better on most measures of health status. These differences in morbidity and mortality between socioeconomic groups have been observed in many studies and constitute one of the most consistent epidemiological research findings.

#### **Impact**

Social and economic factors affecting health are interwoven with and influenced by an array of other basic elements that are essential to good health. These include family structure, the educational system, gender, race, ethnicity, and culture. In the broader context, each factor plays a pivotal role that either helps to connect or to isolate people from each other and the larger community. *Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public* by the Wisconsin Turning Point Transformation Team, pg. 76

#### **Health Indicators**

- Teen Births
- Low Birth Weights
- Infant Mortality
- Mental Illness Related Hospitalizations and Deaths
- Suicides
- Violent Crimes
- Child Abuse and Neglect
- Domestic Abuse and Violence in the Presence of Children
- Self-Reported Health Status
- Chronic Illness
- Unemployment
- Labor Force Participation
- Personal and Household Income
- Poverty
- Education
- Elderly Population
- Single Parent Households

# Wisconsin's Health Priorities – 11

## Tobacco Use and Exposure

### **Definition**

The active or passive introduction into the human body of toxins found in tobacco products. Tobacco use and exposure is a complex web of social influences, physiological addiction, and marketing and promotion of tobacco products. Effective tobacco prevention and control efforts reduce youth initiation, promote cessation, eliminate environmental tobacco smoke, and address the disparate impact of tobacco on various populations. Comprehensive efforts include counter-marketing, community interventions, legislation and policy change, and evaluation and monitoring.

### **Impact**

Tobacco use is the single most preventable cause of disease and death in Wisconsin and the U.S. More deaths can be attributable to tobacco use, than to alcohol, cocaine, heroin, homicide, suicide, motor vehicle crashes, and HIV/AIDS combined. Leading tobacco-related injuries and illnesses are cardiovascular disease, lung cancer, other selected cancers, respiratory diseases, perinatal conditions, and fire-related burns. Evidence continues to document the health hazards of environmental tobacco smoke to non-smokers. Efforts to protect people in public spaces and occupational settings from environmental tobacco smoke exposure is of national significance. - Healthiest Wisconsin 2010 Part I: A Partnership Plan to Improve the Health of the Public by the Wisconsin Turning Point Transformation Team, pg. 78

### **Health Indicators**

- Lung Cancer Incidence and Deaths
- Lung, Trachea, and Bronchus Disease Deaths
- Congestive Heart Failure Deaths
- Emphysema and Chronic Lung Disease Deaths
- Heart Disease Deaths
- Stroke Deaths
- Current Cigarette Smokers
- Smoking During Pregnancy

