

Mobilizing for Action through Planning & Partnership (MAPP)
Community Health Status Assessment 2007
Madison County, Kentucky



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Community Health Status Assessment 2007- Executive Summary

The Community Health Status Assessment 2007 section of the Mobilizing for Action Through Planning & Partnership (MAPP) Community Assessment Report for Madison County, KY displays key indicators' data in the following categories: demographic, socioeconomic, human resources availability, behavioral risk factors, environmental health, social and mental health, maternal and child health, and death, illness and injury.

In study of the presenting data, the strengths, weaknesses, opportunities, and threats (SWOT) analysis was applied to each section thus revealing the following information.

Demographic Characteristics

Strengths

One of the fastest growing county populations in the state
County intersected by north/south interstate resulting in high travel volume through county
Large percentage of population is in productive/working adult age range presently
Emerging retirement age adults in population

Weaknesses

Rapid growth produces strain on local resources
Farmland declining due to housing and industry growth
Major interstate corridor used to transport potentially hazardous chemicals across county

Opportunities

Increasing county and cities revenue from taxes to support growth
Growing Hispanic provides cultural diversity
Emerging retirement age adults result in increased health and social service needs
Increasing needs for schools increase employment for teachers and school support staff

Threats

Inadequate resources to meet community residents' needs and demands
Inadequate use of interpreters for persons speaking English as a second language
Future trends in population growth is projected to be greater in late to older adult population,
fewer working adults
Increase need for infrastructure growth, including utilities and roadways

Socioeconomic Characteristics

Strengths

Retail trade comprised the highest number of revenue generating establishments
in 2003
Health and Social Assistance Services comprised the second highest number
of revenue generating establishments in 2003
Annual payroll for county was \$189,809,532 in 2003
Cattle farming was the number one type of farming for the county in 2002

Socioeconomic Characteristics (Continued)

Weaknesses

- Approximately 1/3 of children age 5 years or less were living below poverty in 2000
- Approximately 9% of residents were not covered by health insurance in 2000
- Gradual increase in unemployment rate from 2000 to 2004
- Approximately 8% of children had no parents working in 2001
- Approximately 45% of students enrolled in public schools were receiving free or reduced priced lunches in 2005
- Gradual increase in persons under age 19 receiving food stamps from 2000 to 2005
- Gradual increase in persons under age 19 receiving KCHIP from 2000 to 2005
- Approximately 18% of children lived in poverty in 2001
- Approximately 17% of all county residents were living in poverty in 2000
- Retail trade, with the highest number of establishments in the county in 2003, often pays employees minimum wage, provides few or no employee benefits, and may staff establishments with several part time employees

Opportunities

- Increasing need for higher paying jobs with employee benefits available
- Increasing need for educated or trained workforce
- Pursuing alternative farm crops and markets for produce

Threats

- Employers that pay good salaries and offer employee benefits will not choose to locate in county
- Current employers offering good salaries and employee benefits may move establishments out of county
- Continued decline of productive farmland; loss of conserved green space

Health Resources Availability

Strengths

- Nursing shortage has not affected county
- Two hospitals located in county
- Five clinics accept medically indigent individuals
- Several nursing facility beds are established in local facilities
- Each city has an urgent treatment center

Weaknesses

- Inadequate mental health services for both acute hospitalization and rehabilitation
- Over a hundred registered nurses sought employment outside the county 2005-2007
- Too few health care providers accepting recipients of Medicaid
- Adult day care centers located in Richmond only
- Lack of geriatric health specialists

Opportunities

- Developing additional adult living communities with available health care services
- Increasing affordable mental health services
- Increasing health care providers who accept Medicaid
- Increasing numbers of health care providers with primary interest in geriatric care

Threats

- Increased aging population places higher demand for health care services focusing on chronic disease prevention and maintenance

Health Resources Availability - Threats (Continued)

Declining incentives for health care providers to specialize in care of older adults and appropriate chronic disease management

Behavioral Risk Factors

Strengths

Improved seat belt use from 2004-2006

Declining cigarette use among youth, except among middle school age girls

Increased physical activity among elementary school youth

Weaknesses

High tobacco use

Consume less than 5 fruits & vegetables per day

High occurrence of obesity

Lack of physical activity

Inadequate oral care

Inadequate seat belt use

Inadequate flu shot use

Inadequate breast screening

Opportunities

Increasing opportunities for both adults and youth to be more physically active

Increasing education on ways to eat more healthy foods at affordable prices

Increasing education on preventive oral health care for all ages

Continuing to focus attention on tobacco use prevention and tobacco products cessation

Increasing oral policies and/or regulations preventing exposure to second hand smoke in public places

Continuing education on appropriate adult seat belt use and child restraint use

Continuing education on flu vaccine use and healthy adult screenings

Threats

TV and video games that engage both adults & youth in sedentary activity

Increased marketing by fast foods chains to adults & youth

Busy working families who eat meals in cars "on the run" to another event

High costs to develop walking/biking paths

Costs of dental care prevents seeking needed help for uninsured or underinsured

Tobacco companies and special interest groups openly oppose policies or regulations that prohibits smoking in public places

Tobacco companies strong marketing strategies to engage new smokers, i.e. women and girls

Environmental Health

Strengths

Fewer restaurants failed inspections from 2003-2006

Decline in new septic tank systems; great access to public sanitation systems

Only 3 animals diagnosed with positive rabies from 2002-2005

Most county households on public water sources

Environmental Health (Continued)

Weaknesses

Some households still utilize well water or cisterns for family consumption
Some households still utilize septic systems for sanitary wastes collection

Opportunities

Preserving clean air and water supplies for personal uses and pleasure
Managing building growth to ensure adequate water supplies and safe disposal of wastes

Threats

Contaminated water and air supplies
Inadequate infrastructure to accommodate population growth

Social and Mental Health

Strengths

Decline in reported abuse and neglect/dependency of children from 2000 to 2003
Decline in collisions involving drinking drivers from 2000 to 2005

Weaknesses

Higher percentage of domestic violence rates than state for 2001-2003
Higher percentage of abuse cases reported to Adult Protective Services than at the state level from 2001-2003
Increase in drug arrests from 2000 to 2005

Opportunities

Increasing alcohol and drug use education
Increasing enforcement of laws related to drug and alcohol misuse
Increasing rehabilitation services for addiction
Increasing services for victims of domestic violence; convictions of perpetrators

Threats

Increased availability of illicit and prescription drugs contributes to abuse
Misuse of drugs viewed as an alternative solution to poverty, unemployment, and coping
Determining who will pay for rehabilitation services for addictive disorders

Maternal and Child Health

Strengths

Lower percentage of preterm births than at state level from 1999-2002
Approximately 88% of live births were to mothers receiving early prenatal care
Approximately only 2% of live births were to mothers receiving late/no prenatal care
Gradual decline in percentages of women who report smoking during pregnancy from 2002-2005
Approximately 7% of grandparents served as caregivers for children in 2000
Gradual decline in births to females, ages 10-17, from 2000-2002

Weaknesses

Higher percentages of preterm births than nationally for 1999-2002
Approximately 3% of county births were considered Very Preterm or less than 32 completed weeks of pregnancy from 1999-2002
Approximately 21% of multiple delivery births were considered Very Preterm
Approximately 8% of births were of low birthweight (less than 5 1/2 pounds)
Approximately 9% of pregnant women received inadequate care during pregnancy
Approximately 22% of women reported smoking during pregnancy

Maternal and Child Health - Weaknesses (Continued)

Approximately 7% of children were reared by grandparents due to parents being unavailable to parent

Opportunities

Increasing resources to assist pregnant women to quit smoking

Increasing education for pregnant women on the risks to the pregnancy as a result of tobacco use

Making an early diagnosis of pregnancy and referral for prenatal care

Continuing abstinence education and family planning resources in community for all females of childbearing age

Threats

Females delay seeking confirmation of pregnancy due to lack of knowledge about resources to help with prenatal care

Smoking is still not viewed as an addiction and thus not treated appropriately

Lack of available Hispanic interpreters to assist women who speak English as a second language during prenatal visits and deliveries

Death , Illnesses, and Injuries

Deaths

Deaths as a result of motor vehicles declined from 2000 to 2003

No deaths due to melanoma of the skin and cancer of cervix/uteri were reported in 2000

Gonorrhea declined from 2003 to 2005

Confirmed cases of reported influenza has been low from 2002 to 2006

Weaknesses

Heart disease is the leading cause of death, followed by cancer and stroke

County had a larger number of number of population per health care provider than peer counties in 2000

Highest age groups for suicide were in the 20-24 y.o. and the 65 y.o.. +

Rate of suicide increased from 2000 to 2003

Unintentional injuries were the greatest among the <1 y.o.. age group and in the 65 y.o.+

Approximately 17% of deaths was due to motor vehicles in 2000

Deaths due to trachea, bronchus and Lung were the leading cause among cancers

Diabetes as a secondary diagnosis occurred in approximately 15% of inpatient admissions in 2000-2001

Asthma as a primary diagnosis for inpatient hospital admissions occurred highest in the the 25-44 y.o. age group; 0-4 y.o. age group comprised the second highest age group in 2003

Chlamydia increased from 2003 to 2005

Opportunities

Increasing education needed for chronic disease prevention , i.e., heart, stroke, cancer, etc.

Continually increasing attention to strategies to reduce unintentional injuries

Increasing education on diabetes self management care to prevent complications

Increasing education of suicide risks and early interventions

Increasing education on sexually transmitted infection risks and resources for treatment

Death, Illnesses, & Injury (Continued)

Threats

Segments of population continue to engage in risk taking behaviors

Flu pandemic with large number of population unprotected by flu vaccine

Complications of chronic diseases occur as population ages

Inadequate number and type of primary care providers to meet health needs of aging population

Careful examination of the SWOT analysis for these indicators related to the county's population will influence planning and implementation strategies for a variety of agencies that provide services. These include health, social, and law enforcement agencies; local governments and educational systems. As the county's population continues to grow and the increase in the "baby boomers" age, demands for quality services close to residents' home will become greater in demand.

Introduction

Madison County, located along Interstate 75, is situated in the east central part of Kentucky. As one of the counties in the Appalachian Regional Commission geographic area, many residents have ties to the Appalachian culture. This is evident in locally produced crafts, through music, and by preservation of historical information and sites. Berea has been named the "Crafts Capital of Kentucky" and is known for its diverse offering of handmade quality crafts through local shops and craft fairs during the year.

Significant landmarks within the county provide residents and tourists with a look at the historical influences on the local area, in the state and nation. Fort Boonesborough was established by Daniel Boone when he and his party reached the Kentucky River on April 1, 1775. It became Kentucky's second settlement. The fort has been reconstructed as a working fort and is home to resident artisans who give visitors a look at what life was like in pioneer Kentucky. The fort with adjacent campgrounds forms the present day Fort Boonesborough State Park.

White Hall State Historic Site, located near Fort Boonesborough, is the restored home of Cassius Marcellus Clay. Mr. Clay was known as an emancipationists, newspaper publisher, Minister to Russia and a friend of Abraham Lincoln and John G. Fee, founder of Berea College. His daughter, Laura Clay, was a political activists for women's suffrage and state's rights and became the first woman to be nominated for U.S. President by a major political party at the 1920 Democratic Convention in San Francisco.

Berea College, founded in 1855, was the first interracial and co-educational college in the south. The school had many set-backs during the Civil War due to southern pro-slavery sympathizers and continues with struggles to operate until 1950 when an amended Day Law allowed integration above the high school level. Berea College was the first college in Kentucky to allow admission of black students. Current enrollment numbers approximately 1500 students representing most U.S. states and 70 plus countries. It has remained true to its commitment to Appalachian youth with approximately 70% of students coming from the Appalachian region.

Nationally, the college is known for its strong work study program, faculty and students community service projects and excellent academic program. It has garnered repeated listings in *U.S. News & World Report* as the No. 1 regional college in the South. Other media sources such as *The New York Times*, *The Chronicle of Higher Education*, *The Philadelphia Inquirer*, and *The Times of London* have brought national and international attention to the many positive aspects of the college.

Sources: <http://parks.ky.gov/stateparks/fb/index.htm>; <http://parks.ky.gov/statehistoricsites/wh/index.htm>; <http://www.berea.edu>

Introduction

Richmond, the county seat, is home to Eastern Kentucky University (EKU), one of the state's nine state funded universities. Founded in the early 1900's to provide education for classroom teachers, it has diversified into offering 168 undergraduate and graduate programs for approximately 16, 000 students yearly.

The Madison County School System consists of ten elementary, three middle, two high schools and twelve Family/Youth Resource Centers provide public education for nearly 10,000 of the county's youth in kindergarten through 12 grade. Berea Independent School System enrolls 1,100 students in K-12 grades. Several small private schools and home schooling provides education for the remainder of the county's youth.

Madison County Fiscal Court, Richmond City Commission and Berea City Council make you the three elected governmental bodies. Each entity establishes a comprehensive plan for grow and development, policies and codes/regulations, tax base rates, and provides emergency first responder services for the respective jurisdictions.

Health and human services are located within the cities. Pattie A. Clay Regional Medical Center, located in Richmond, and St. Joseph Berea provide acute care, emergency and diagnostic services for Madison and surrounding counties. Other health care services include: four nursing facilities, nine home health agencies and one in-home hospice. Plans are developed for an in-patient hospice facility. Madison County Health Department serves as the local official county health department with offices in both Richmond and Berea. Department for Community Based Services, the official social services agencies, has offices based in both Richmond and Berea as well.

Educational systems, health care services, and manufacturing industries are the largest employers in the county. In addition, the Bluegrass Army Depot (BGAD) provides employment for several residents. BGAD is comprised of approximately 14,600 acres of mostly open grassland and wooded areas. The site has housed conventional explosive munitions and assembled chemical weapons since the 1940s. In recent years, much attention has been focused on the safe disposal or neutralization of chemical weapons stored in igloos at the installation.

Community Health Status Assessment - Overview

The Community Health Status Assessment provides key information of core indicators of the county related to demographic and socioeconomic characteristics, health resources availability, behavioral risk factors, environmental health, social and mental health, maternal and child health, death, illness, and injury. The 2000 U.S. Census data is used as a baseline, with following years data included for comparison as was available.

Comparison data between the United States, Kentucky and Madison County data is show in some graphs. Kentucky peer counties of Campbell, Christian, and Warren are shown in selected comparisons to Madison County in some areas. These counties were selected for the following reasons:

Campbell County, located in northern Kentucky, had a population of approximately 18,000 residents more than Madison County in 2000. By 2005, its population was approximately only 10,000 greater than Madison County's. Campbell County is adjacent to the Greater Cincinnati area and is intersected by Interstate 75.

Christian County, located in west central Kentucky along the Tennessee border, had a population of approximately 1,393 more than Madison County. By 2005, the county's population was 7,604 fewer than Madison County.

Warren County, located in central Kentucky, is home to Western Kentucky University. 18,000 students were enrolled in fall 2006. In 2000, the county had a population of 21,650 greater than Madison County; in 2005, its population was 21,211 greater. Even though the population is larger than Madison County, the county is similar in several ways. Among these similarities are: is intersected by a major interstate; has one of the state's supported universities; has a comparable industrial and business base; and is comprised of both urban and rural growth.

In 2005, the population growth estimates' ranking was assigned to the following cities and counties in this comparison group:

| Cities |
|------------------------------------|
| #4 Bowling Green (Warren County) |
| #6 Richmond (Madison County) |
| #7 Hopkinsville (Christian County) |

| Counties |
|----------------------|
| #5 Warren County |
| #8 Campbell County |
| #9 Madison County |
| #10 Christian County |

Introduction

Demographic Characteristics

Definition of Category: Demographic characteristics include measures of total populations as well as percent of total population by age groups, gender, race and ethnicity, where these populations and subpopulations are located and the rate of change in population density over time, due to births, deaths, and migration patterns.

Madison County

Strengths

- One of the fastest growing county populations in the state
- County intersected by north/south interstate resulting in high travel volume through county
- Large percentage of population is in productive/working adult age range presently
- Emerging retirement age adults in population

Weaknesses

- Rapid growth produces strain on local resources
- Farmland declining due to housing and industry growth
- Major interstate corridor used to transport potentially hazardous chemicals across county

Opportunities

- Increasing county and cities revenue from taxes to support growth
- Growing Hispanic provides cultural diversity
- Emerging retirement age adults result in increased health and social service needs as aging occurs
- Increasing needs for schools increase employment for teachers and school support staff

Threats

- Inadequate resources to meet community residents' needs and demands
- Inadequate use of interpreters for persons speaking English as a second language
- Future trends in population growth is projected to be greater in late to older adult population, resulting in fewer working adults
- Increase need for infrastructure growth, including utilities and roadways

Demographic Characteristics

| Overall Demographic Information for Madison County, KY | | | |
|--|-----------------|------------|--------------------------|
| 1990 Population | 2000 Population | Net Change | Population Density |
| 57,508 | 70,872 | 23.2* | 160.8 persons/sq. mile** |

Source: * http://ksdc.louisville.edu/sdc/census2000/2pageprofiles2change_madison.xls

** Madison County QuickFacts, US Census Bureau, <http://quickfacts.census.gov/qfd/states/2121151.html>

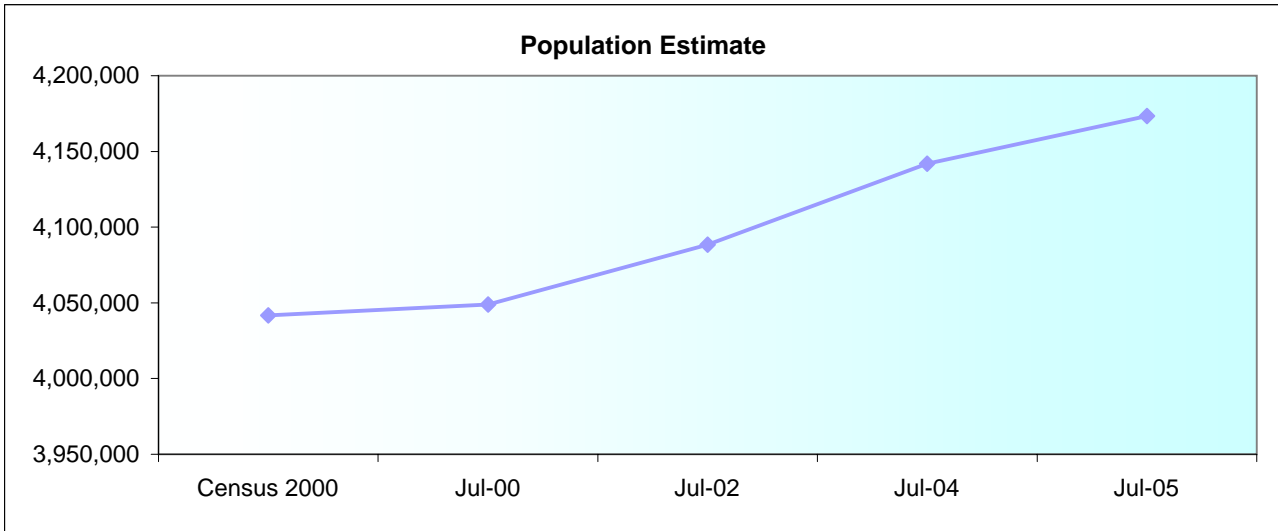
| Madison County, Demographic Profile: Age and Sex, 2000 | | | | | | |
|--|---------------|---------------|---------------|--------------|--------------|---------------|
| Age Group | Number | | | Percentage | | |
| | Male | Total | Female | Male | Total | Female |
| <1 | 440 | 432 | 872 | 0.6% | 0.6% | 1.2% |
| 1 – 14 | 6,284 | 5,938 | 12,222 | 8.9% | 8.4% | 17.2% |
| 15 – 24 | 7,535 | 8,118 | 15,653 | 10.6% | 11.5% | 22.1% |
| 25 – 44 | 10,274 | 10,715 | 20,989 | 14.5% | 15.1% | 29.6% |
| 45 – 64 | 6,866 | 7,341 | 14,207 | 9.7% | 10.4% | 20.0% |
| 65 – 74 | 1,765 | 2,150 | 3,915 | 2.5% | 3.0% | 5.5% |
| 75 and older | 1,011 | 2,003 | 3,014 | 1.4% | 2.8% | 4.3% |
| Total | 34,175 | 36,697 | 70,872 | 48.2% | 51.8% | 100.0% |

Source: Census 2000 Summary File 3, U.S. Census Bureau, 2002. (www.census.gov) 19Aug02: Area 1, Page 1 Profile prepared by the Kentucky State Data Center, (5020 852-7000 cbpa.Louisville.edu/ksdc ksdc@louisville.edu)

Analysis: Madison County has been one of the fastest growing counties in the state of Kentucky. In the decade from 1990 to 2000, a 23.2 percent population increase brought additional housing, industries and businesses, schools, and expanded community resources. Interstate 75, crossing through the county from north to south, influenced the growth of the county. Interstate accessibility provided opportunities both in and out of the county for labor, shopping, and access to additional services not available locally.

| Population Subgroup | Madison County | | Kentucky | U.S. |
|---|----------------|------------|------------|------|
| | Number | Percentage | Percentage | |
| Black/African Am. | 3,150 | 4.4 | 7.3 | 12.3 |
| White | 65,918 | 93 | 90.1 | 75.1 |
| American Indian or Alaska Native | 196 | 0.3 | 0.2 | 0.9 |
| Asian | 510 | 0.7 | 0.7 | 3.6 |
| Hispanic or Latino | 685 | 1 | 1.5 | 12.5 |
| Native Hawaiian or other Pacific Islander | 15 | 0 | 0 | 0.1 |
| White, not Hispanic/Latino orig | 65,484 | 92.4 | 89.3 | 69.1 |
| Some other race | 240 | 0.3 | 0 | 0 |

Kentucky, Population Growth Estimate, 2000-2005

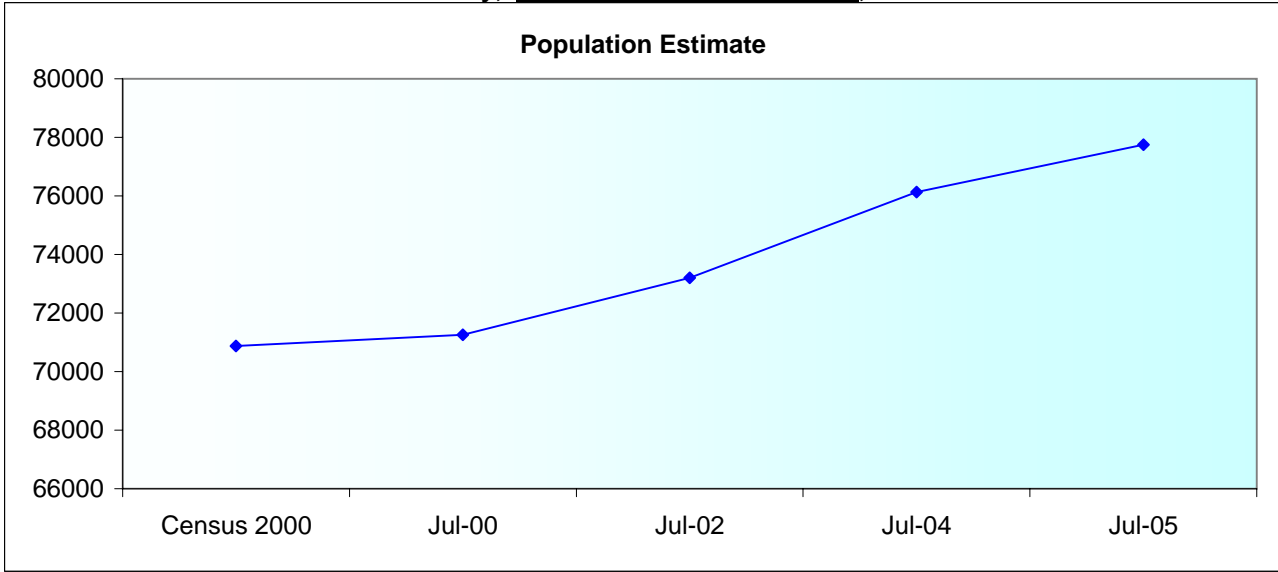


| Area | Census 2000 | Jul-00 | Jul-02 | Jul-04 | Jul-05 |
|-------------|--------------------|---------------|---------------|---------------|---------------|
| Kentucky | 4,041,769 | 4,049,005 | 4,088,510 | 4,141,835 | 4,173,405 |

Source: <http://sig.reachoflouisville.com>

Analysis: Kentucky had an estimated population growth of 131, 636 individuals from 2000 census to July 2005.

Madison County, Population Growth Estimate, 2000-2005

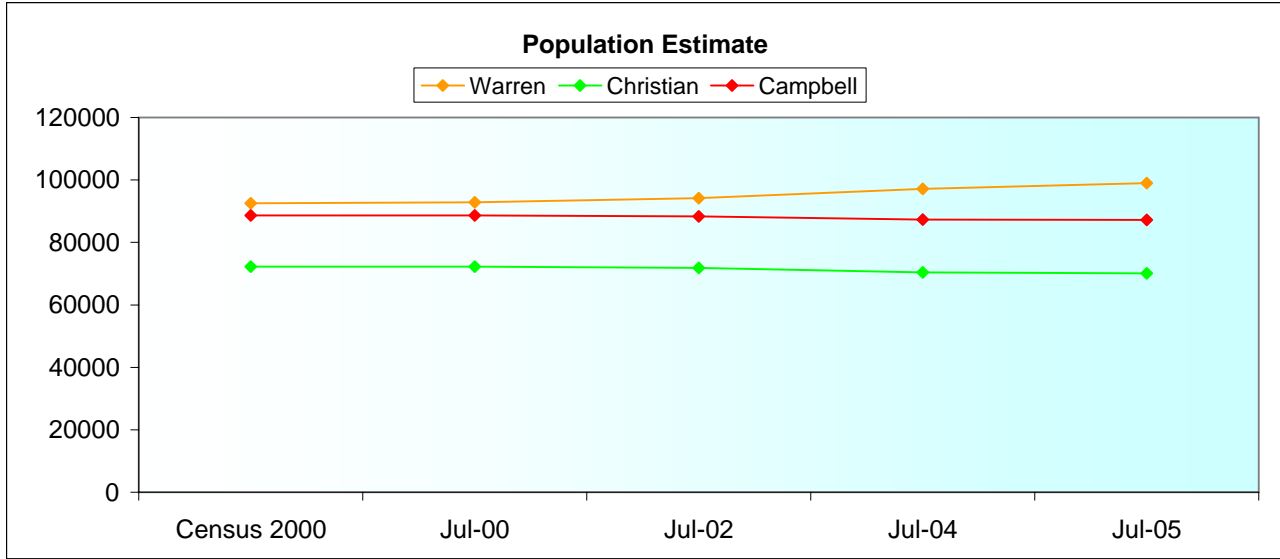


| Area | Census 2000 | Jul-00 | Jul-02 | Jul-04 | Jul-05 |
|------------|-------------|--------|--------|--------|--------|
| Madison Co | 70872 | 71261 | 73198 | 76136 | 77749 |

Source: <http://sig.reachoflouisville.com>

Analysis: Madison County's population showed an increase of an estimated 6, 877 from the 2000 Census to July 2005. In 2006, the county ranked

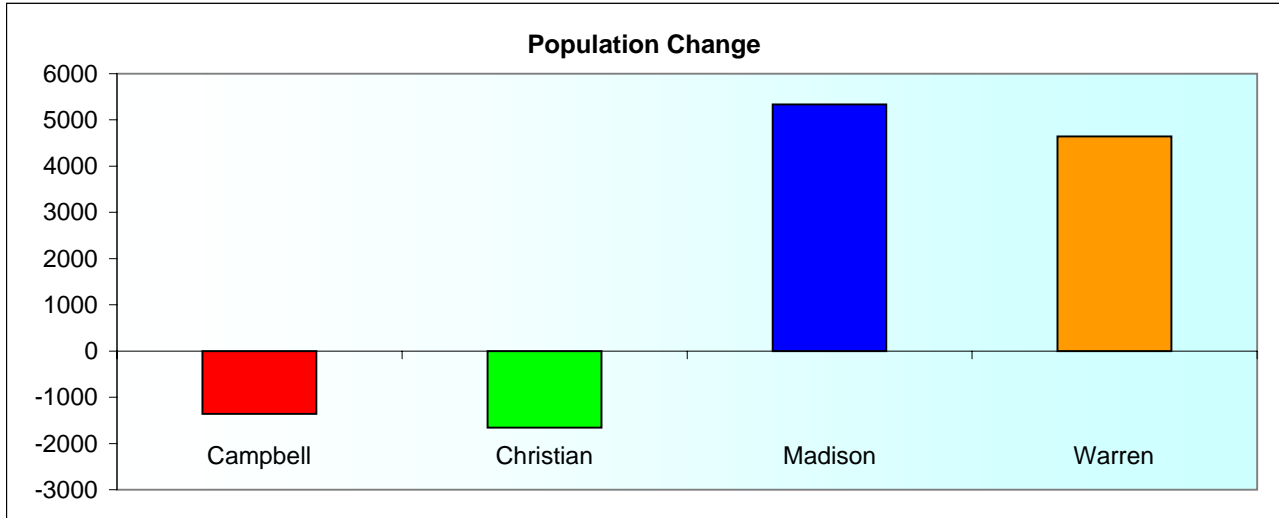
Peer Counties, Estimated Growth Estimate, 2000-2005



| Area | Census 2000 | Jul-00 | Jul-02 | Jul-04 | Jul-05 |
|-----------|-------------|--------|--------|--------|--------|
| Warren | 92522 | 92797 | 94169 | 97163 | 98960 |
| Christian | 72265 | 72273 | 71789 | 70364 | 70145 |
| Campbell | 88616 | 88647 | 88301 | 87285 | 87251 |

Source: <http://sig.reachoflouisville.com>

Madison County and Peer Counties Comparison, Population Change, 2000 to 2004

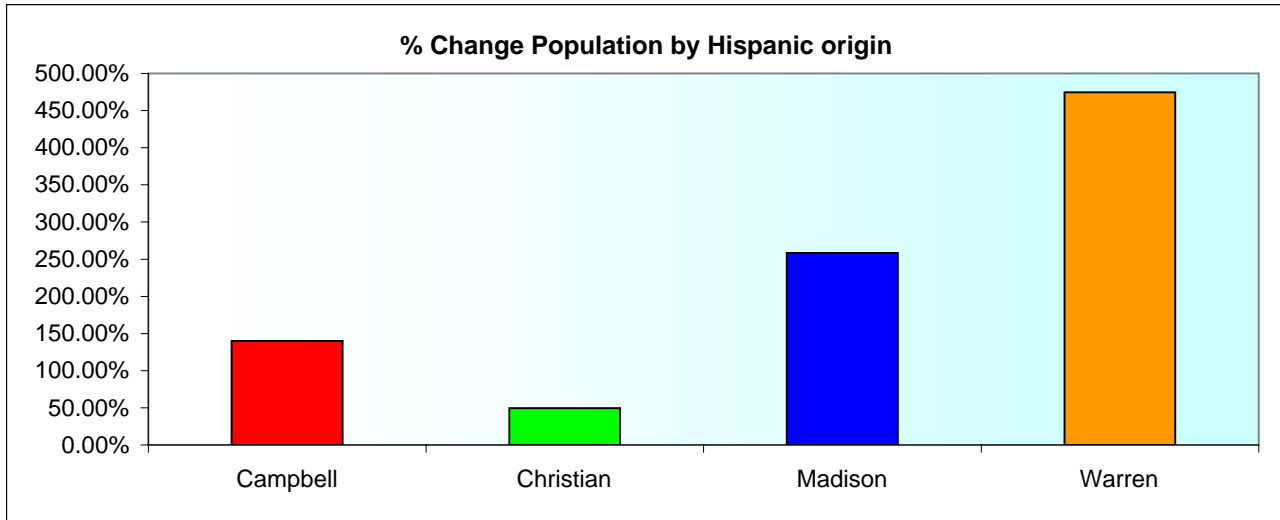


| Area | Population Change 2000 to 2004 |
|----------------|---------------------------------------|
| Campbell | -1360 |
| Christian | -1660 |
| Madison | 5336 |
| Warren | 4646 |

Source: <http://sig.reachoflouisville.com>

Analysis: Madison County experienced the largest growth in comparison to the peer counties during the four year timeframe. Only Warren County had a near similar growth.

Madison County and Peer Counties Comparison, Percent of Change in Population by Hispanic Origin, 1990-2000, U.S. Census Bureau

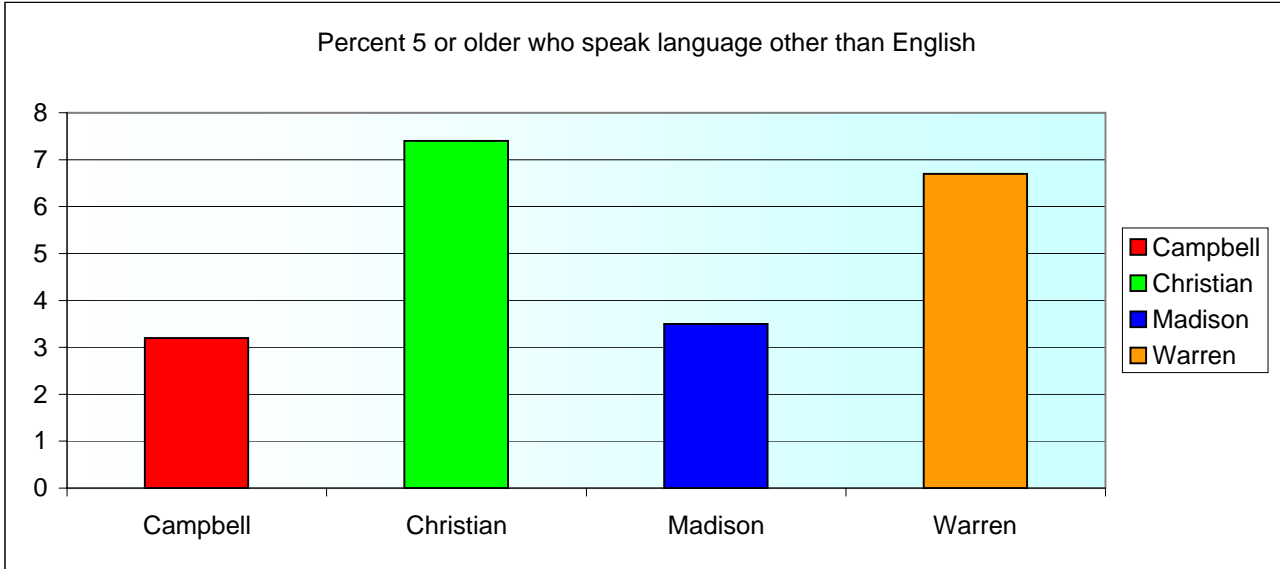


| Area | % Change Population by Hispanic origin 1990-2000 |
|----------------|--|
| Campbell | 139.80% |
| Christian | 49.40% |
| Madison | 258.60% |
| Warren | 474.80% |

Source: <http://sig.reachoflouisville.com>

Analysis: In the decade of the 1990s, Madison saw an increase of approximately 259% in persons of Hispanic origin. Madison County, like many other parts of Kentucky experienced an increase. Farming, construction, and hospitality jobs has attracted many individuals to the state. Some Hispanics choose to remain in the county permanently, while others migrate in and out with job availability.

**Madison and Peer Counties Comparison,
Percent of Persons 5 and Older Who Speak Language Other Than English in the Home**



| Area | Percent 5 or older who speak language other than English |
|----------------|--|
| Campbell | 3.2 |
| Christian | 7.4 |
| Madison | 3.5 |
| Warren | 6.7 |

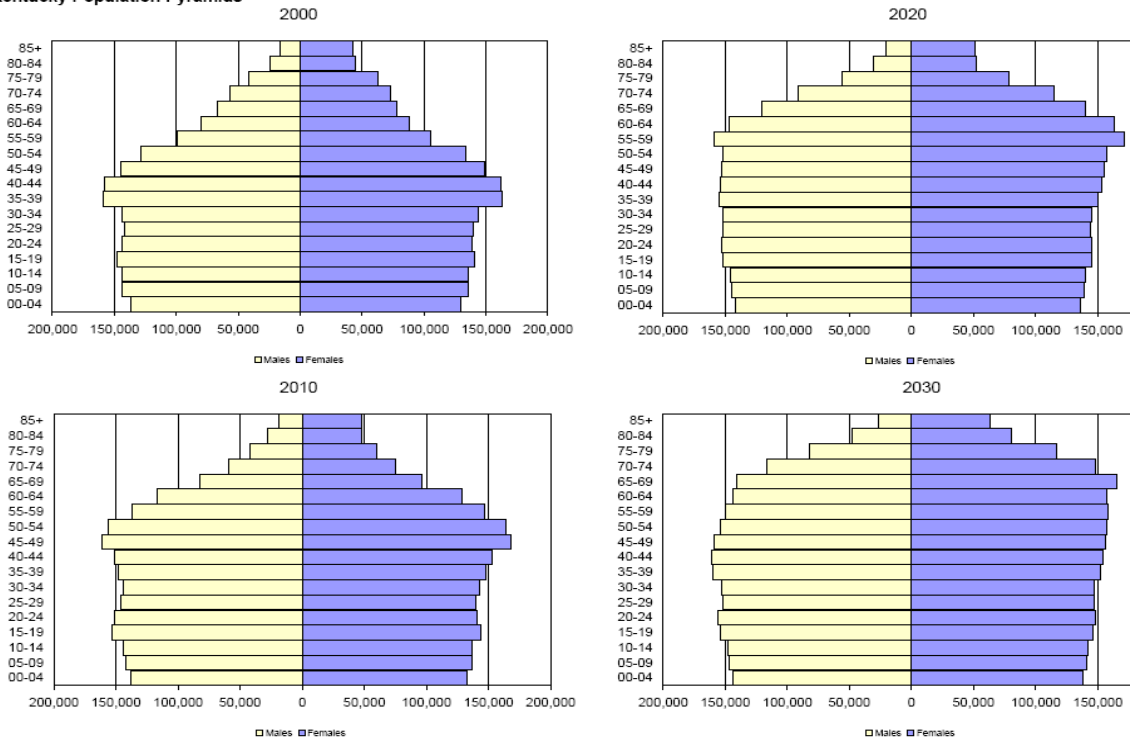
Source: <http://sig.reachoflouisville.com>

Analysis: Madison and peer counties had 3% or greater percentage of the population, 5 years of age or older, who spoke a primary language other than English. This represents the in-counties' migration of persons of persons from many cultures. Persons from the Hispanic countries comprise the largest numbers in the counties' population.

Demographic Characteristics

Kentucky, Population Change Estimates, 2000-2030

Kentucky Population Pyramids



Source: Census 2000, *How Many Kentuckians 2004 Edition*, Kentucky Population Research, Urban Studies Institute, University of Louisville. Review edition: 11/2004.
Produced by Alicia Crouch, Kentucky Education Cabinet

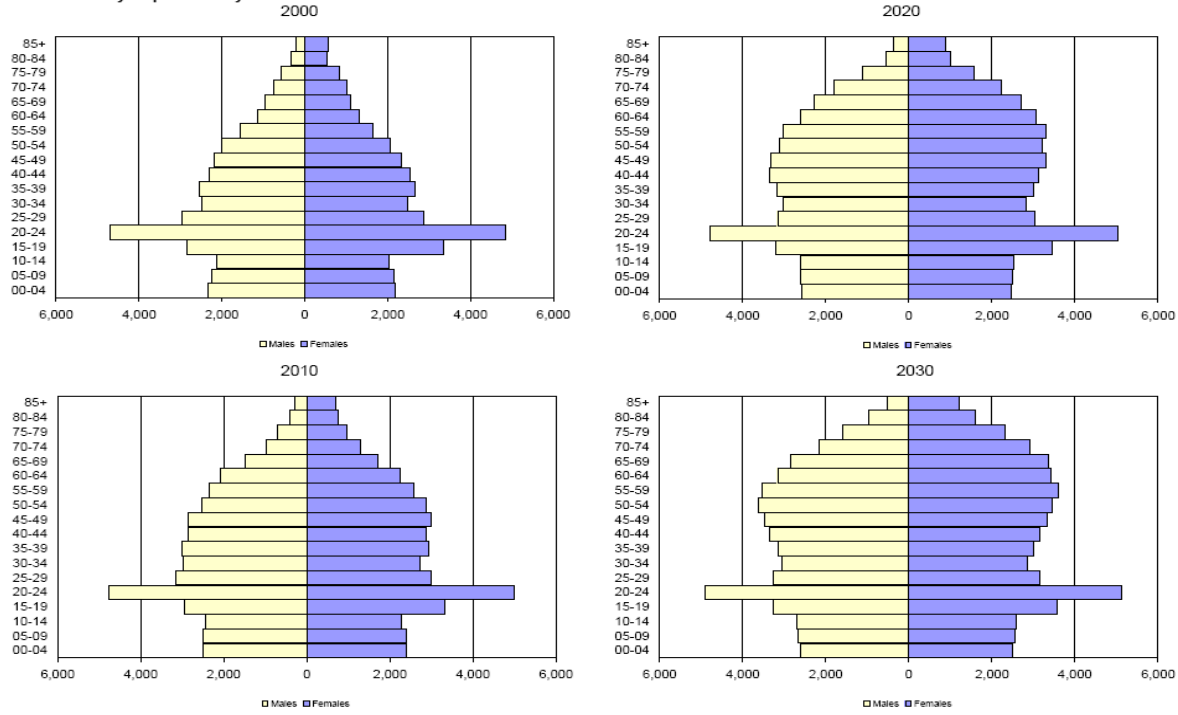
Source: http://ksdc.louisville.edu/kpr/pro/hmk2004to2030_pyramids.pdf

Analysis: Kentucky, like the nation, will be seeing the effects of the aging "baby boomer" generations over in the early years of the 21st century. From 2010 to 2030 and beyond, the needs for services focused on the middle age to later years adult will be as great as those for the younger members of the state's population. By 2030, it is estimated that a shrinkage of the younger working adult population will begin to occur.

Demographic Characteristics

**Madison County,
Population Change Estimates,
2000-2030**

Madison County Population Pyramids



Source: Census 2000, *How Many Kentuckians 2004 Edition*, Kentucky Population Research, Urban Studies Institute, University of Louisville. Review edition: 11/2004.
Produced by Alicia Crouch, Kentucky Education Cabinet

Source: http://ksdc.louisville.edu/kpr/pro/hmk2004to2030_pyramids.pdf

Analysis: Madison County's population change estimates from 2000 to 2030 depicts a different picture than the state's estimated population change. While the predicted increase in the adult population is due to the "baby boomers," it is projected that the county will maintain a continued number of adults in the 20 to 24 age range. The decline in the younger population projects to be typical of the state's population levels.

Kentucky Cities and County Population Growth Estimates

| 2005 Population Estimates: Cities and Counties | | | | | |
|---|------------------------------------|-------------------|--|----------------------------------|-------------------|
| | <u>Cities Ranked (all)</u> | <u>Population</u> | | <u>Counties Ranked (all)</u> | <u>Population</u> |
| | 1. Louisville | 556,429 | | 1. Jefferson | 699,827 |
| | 2. Lexington | 268,080 | | 2. Fayette | 268,080 |
| | 3. Owensboro | 55,459 | | 3. Kenton | 153,665 |
| | 4. Bowling Green | 52,272 | | 4. Boone | 106,272 |
| | 5. Covington | 42,811 | | 5. Warren | 98,960 |
| | 6. Richmond | 30,893 | | 6. Hardin | 96,947 |
| | 7. Hopkinsville | 28,821 | | 7. Daviess | 93,060 |
| | 8. Henderson | 27,666 | | 8. Campbell | 87,251 |
| | 9. Frankfort | 27,210 | | 9. Madison | 77,749 |
| | 10. Florence | 26,341 | | 10. Christian | 70,145 |

Source: <http://ksdc.louisville.edu/>

In 2005, Madison County was estimated to be the 9th largest county in the state; Richmond estimated to be the 6th largest city in the state. In the Aug./Sept. 2006 edition of the *Bluegrass ADD-VANTAGE*, Berea was listed as the fastest growing city in the Bluegrass ADD. The 2000 Census listed the city's population to be 9,851 and an estimated 13,230 by July 1, 2005 or a change of 3,379 (34%). With growth comes increased demand for services such as housing, employment opportunities, health care services, and infrastructure changes. Both Madison County and the cities of Berea and Richmond are facing several challenges due to the rapid growth in the population.

Source: www.bgadd.org/documents/addvent/av300406.pdf

Demographic Characteristics

Socioeconomic Characteristics

Definition of Category: Socioeconomic Characteristics include measures that have been shown to affect health status, such as income, education, and employment, and the proportion of the population represented by various levels of these variables.

Madison County

Strengths

- Retail trade comprised the highest number of revenue generating establishments in 2003
- Health and Social Assistance Services comprised the second highest number of revenue generating establishments in 2003
- Annual payroll for county was \$189,809,532 in 2003
- Cattle farming was the number one type of farming for the county in 2002

Weaknesses

- Approximately 1/3 of children age 5 years or less were living below poverty in 2000
- Approximately 9% of residents were not covered by health insurance in 2000
- Gradual increase in unemployment rate from 2000 to 2004
- Approximately 8% of children had no parents working in 2001
- Approximately 45% of students enrolled in public schools were receiving free or reduced reduced priced lunches in 2005
- Gradual increase in persons under age 19 receiving food stamps from 2000 to 2005
- Gradual increase in persons under age 19 receiving KCHIP from 2000 to 2005
- Approximately 18% of children lived in poverty in 2001
- Approximately 17% of all county residents were living in poverty in 2000
- Retail trade, with the highest number of establishments in the county in 2003, often pays employees minimum wage, provides few or no employee benefits, and may staff establishments with several part time employees

Opportunities

- Increasing need for higher paying jobs with employee benefits available
- Increasing need for an educated or trained workforce
- Pursuing alternative farm crops and markets for produce

Threats

- Employers that pay good salaries and offer employee benefits will not choose to locate in county
- Current employers offering good salaries and employee benefits may move establishments out of county
- Continued decline of productive farmland; loss of conserved green space

Socioeconomic Characteristics

**Kentucky and Madison County Comparison,
Socioeconomic Characteristics, 2000 Census Data**

| Socioeconomic Measure | Madison County | | Kentucky | |
|---|-----------------|---------------------------------|---------------------------|---------------------------------|
| | 2000 | Percent Change from 1990 | | |
| Core Indicators | | | | |
| Unemployed, 16 | 1,837 (3.2%)** | -16.6%** | 109,350 (3.5%)** | |
| <i>Percent Below Poverty Level</i> | | | | |
| ▪ Children* <5 | 4,505 (6.4%)** | 32.8%** | 265,901 (6.0%)** | |
| ▪ Families* | 2,204 (12.0%)** | -9.7%** | 140,519 (13.9%)** | |
| Hispanic | 685 | 258.6%** | 59,939 (172.6%)** | |
| Median Household Income* | \$32,861 (1999) | 53.6% (1989)*+ | \$33,672 (1999) (49.4%)*+ | |
| Less than 9 th grade | 4,994 (11.9%)** | -19.3%** | 309,293(-30.1%)** | |
| 9 th –12 th grade, no diploma | 5,434 (12.9%)** | 4.8%** | 375,707(-2.0%)** | |
| <i>Special Populations</i> | No. | Proportion of Total Pop. | No. | Proportion of Total Pop. |
| ▪ Migrant | | | | |
| ▪ Homeless | | | | |
| ▪ Non-English | 2,347** | 3.5%** | 148,473** | 3.9%** |
| Persons aged 25 | 5,434** | 12.9%** | 375,707** | 14.2%** |
| 2004 Percent & | | | 248,086*** | 53.6%*** |
| Female | 1,833** | 6.7%** | 110,565** | 7.0%** |

Sources: ** Profile of General Demographic Characteristics for Madison County: 1990,2000, and Change 1990-2000

http://ksdc.louisville.edu/sdc/census2000/2pagefiles/2change_madison.xls

***The Coverage Gap: A State-by-State Report on Access to Care. April 2006.

<http://www.rwjf.org/files/Newsroom/CoverageGaps0406.pdf>

*+ http://ksdc.louisville.edu?sdctables/bluegrass_part2_print.xls

Analysis: Socioeconomic characteristics include measures that have been shown to affect health status, such as income, education, and employment, and the proportion of the population represented by various levels of these factors. Categories showing most significant changes from 1990 to 2000 were in the following areas: Unemployment for the persons 16 + years declined by approximately 17%; Children 5 years of ages or less living below poverty grew approximately 33%; Persons with less than a 9th grade education declined approximately 19%, but adults aged 25+ with less than a high school education increased approximately 13%. The largest increase was seen in the Hispanic population with approximately 259% increase.

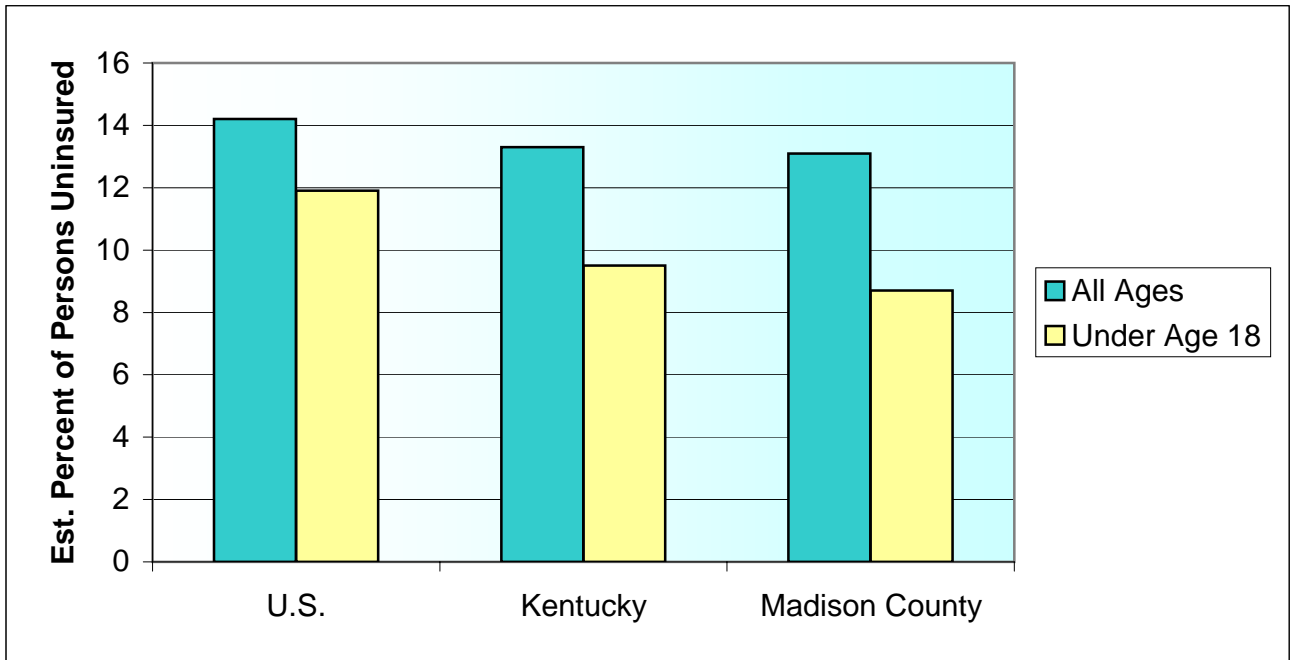
Kentucky and Madison County Comparison, Economic Security, 2000

| INDICATOR | Kentucky | Madison County |
|--|-----------------|----------------|
| Population/ Primary Care Provider (1999) | 2,100 | 3,143 |
| Medicaid Eligible (FY 2000) | 603,436 (14.9%) | 8,391 (11.8%) |
| Medicaid Utilizes, Unduplicated | 582,044 (14.4%) | 8,111 (11.4%) |
| Food Stamp Recipients | 403,230 (10.0%) | 1,771 (2.5%) |
| Persons in Poverty (1999) | 577,972 (14.3%) | 9,182 (13.9%) |
| Persons<18 in Poverty (1999) | 198,106 (20.4%) | 2,872 (18.8%) |
| Total AFDC Recipients (FY 2000) | 136, 549 (3.4%) | 1,847 (2.6%) |
| Unemployed | 81, 752 (4.1%) | 1,003 (2.7%) |
| Median Household Income (1999) | \$33,732 | \$33,205 |
| Total WIC Recipients | 106, 868 (8.8%) | 1,738 (7.2%) |

Source: 2000 Kentucky and County
Health Profiles <http://chfs.ky.gov>

Analysis: In comparison to the total population of Kentucky, Madison County's population showed a somewhat higher level of economic security except in the area of Primary Care Provider per population. Even though the county had available two hospitals and an urgent treatment facility, the percentage of the total population per primary care provider was greater than at the state level. This may have resulted in residents being delayed in receiving medical care by physicians, physician assistants or nurse practitioners.

**U.S., Kentucky, and Madison Comparison,
Estimated Percent of Persons Not Covered by Health Insurance, 2000**

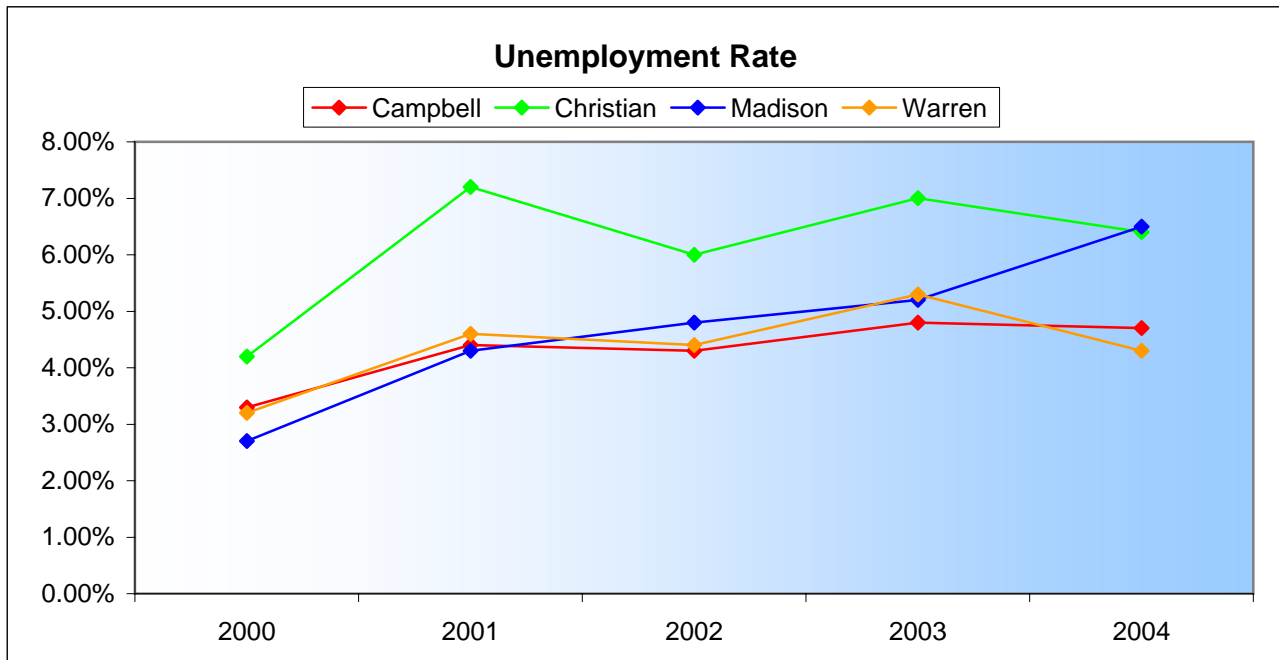


| Area | All Ages | Under Age 18 |
|-----------------------|-------------|--------------|
| U.S. | 14.2 | 11.9 |
| Kentucky | 13.3 | 9.5 |
| Madison County | 13.1 | 8.7 |

Source: www.census.gov/hhes/www/sahie/data/est2000/sahie00cty.xls

Analysis: When compared to the nation and state, the estimated number of persons who were not covered by some type of health insurance was lower for residents of Madison County, according to the 2000 U.S. Census Reports. The under age 18 Madison County residents showed to have the lowest estimated percentage of uninsured.

**Madison and Peer Counties Comparison,
Percent of Change in Unemployment Rate, 2000 to 2004**

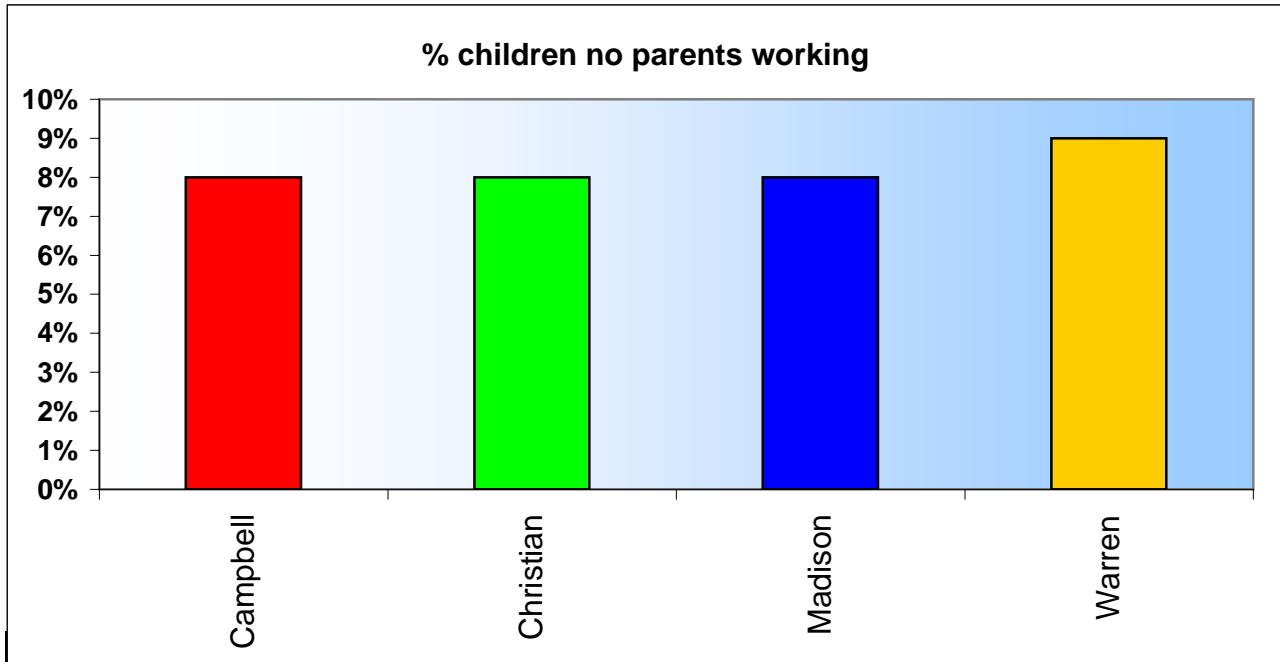


| Area | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------------|--------------|--------------|--------------|--------------|--------------|
| Warren | 3.20% | 4.60% | 4.40% | 5.30% | 4.30% |
| Madison | 2.70% | 4.30% | 4.80% | 5.20% | 6.50% |
| Christian | 4.20% | 7.20% | 6% | 7% | 6.40% |
| Campbell | 3.30% | 4.40% | 4.30% | 4.80% | 4.70% |

Source: <http://sig.reachoflouisville.com>

Analysis: From 2000 to 2004, Madison County's unemployment rate rose from 2.7% to 6.5%, thus an increase of 3.8%. Madison County's unemployment was higher than peer counties.

**Madison and Peer Counties Comparison,
Percent of Children with No Parents Working, 2001**

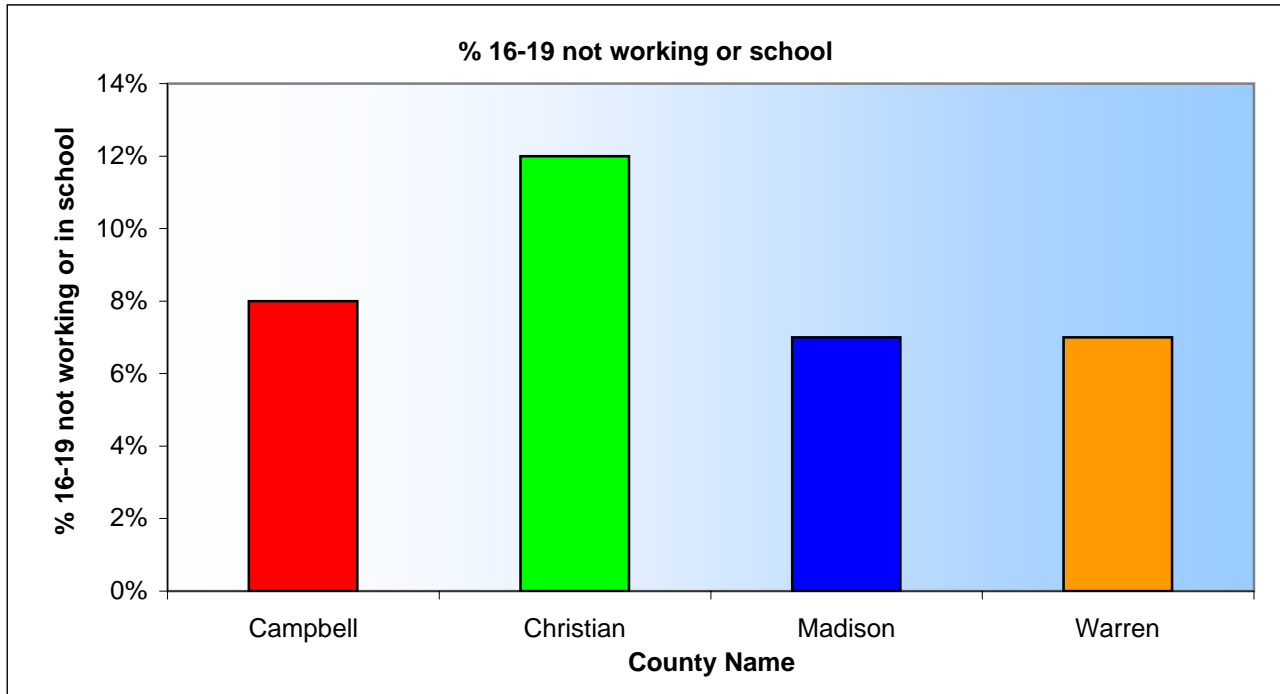


| Area | % children no parents working |
|-----------|-------------------------------|
| Campbell | 8% |
| Christian | 8% |
| Madison | 8% |
| Warren | 9% |

Source: <http://sig.reachoflouisville.com>

Analysis: According to Kids Count statistics for 2001, Madison County was comparable to the peer counties. Having an estimated 8% of children who had no parent working placed a burden on school systems, housing, health and social service systems to meet basic needs of these children and their families.

**Madison and Peer Counties Comparison,
Percent of 16-19 Year-olds Not Working or in School, 2001**

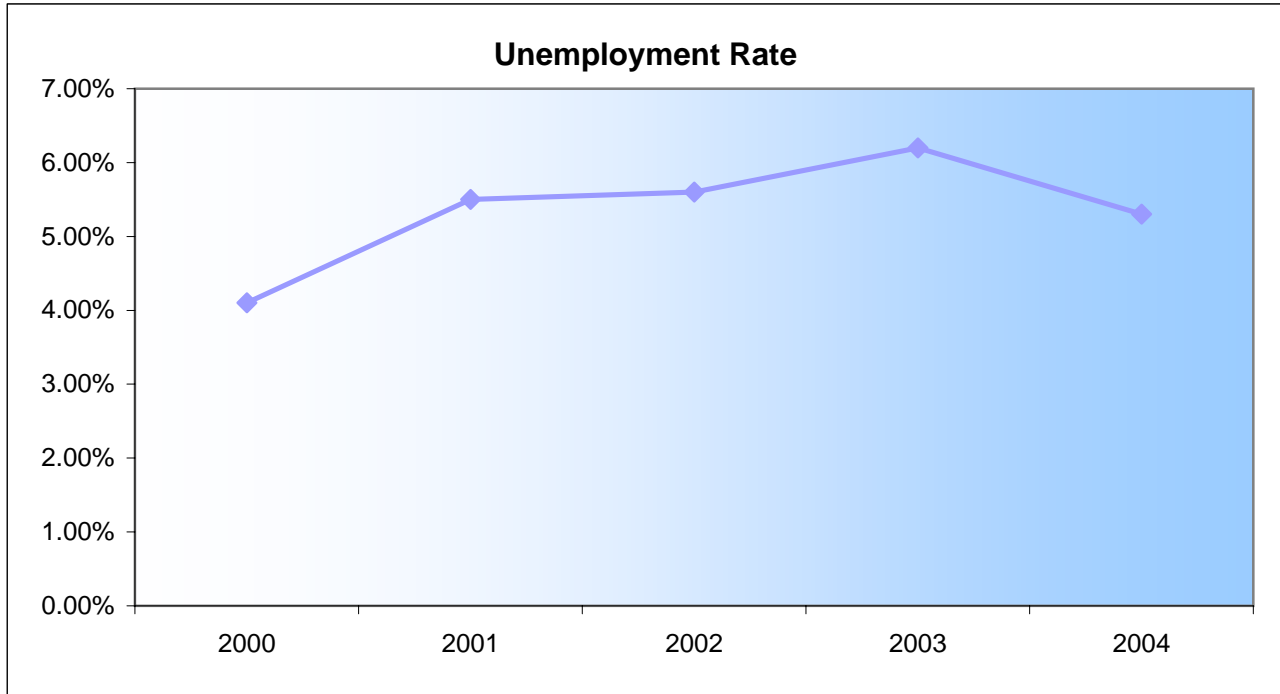


| Area | % 16-19 not working or school |
|----------------|--------------------------------------|
| Campbell | 8% |
| Christian | 12% |
| Madison | 7% |
| Warren | 7% |

Source: <http://sig.reachoflouisville.com>

Analysis: Madison County and peer counties of Warren and Campbell had similar percentages of individuals in the mid to late teen years who were not working or in school, according to the 2001 KIDS Count. Christian County experienced a higher 4% in the same period.

Kentucky, Percent of Persons Who Were Unemployed, 2000 to 2004

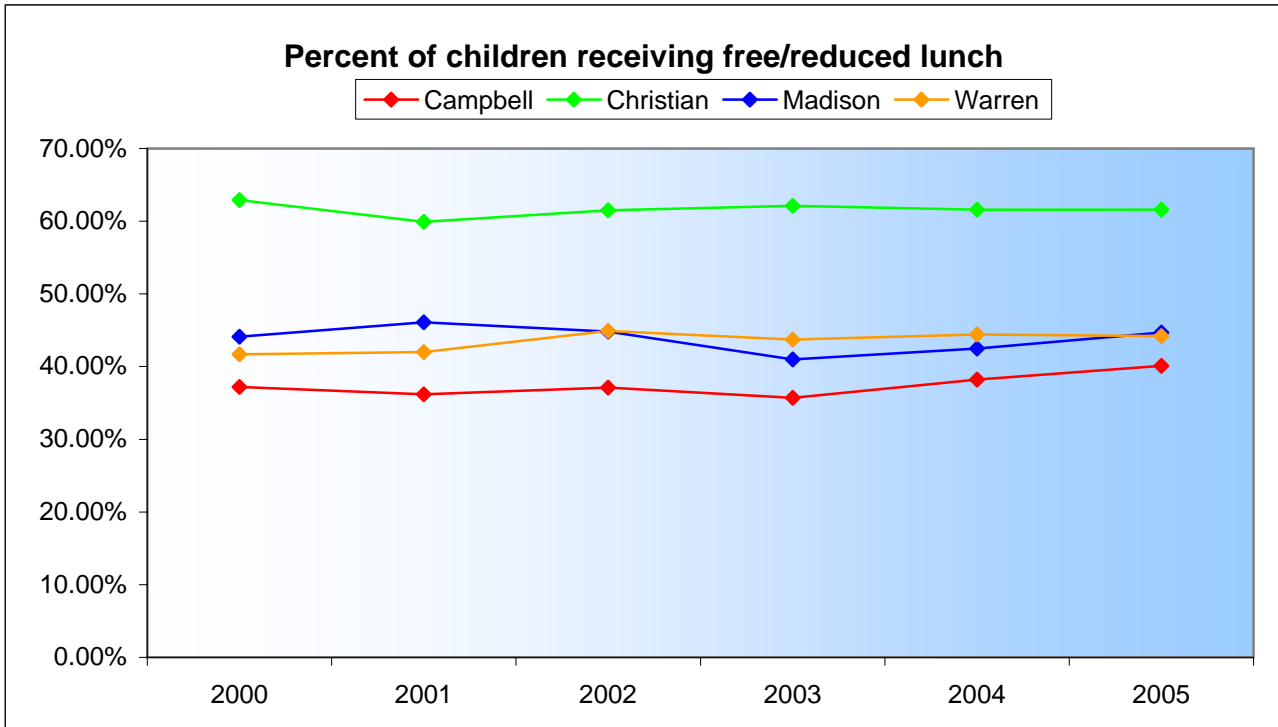


| Area | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------|-------|-------|-------|-------|-------|
| Kentucky | 4.10% | 5.50% | 5.60% | 6.20% | 5.30% |

Source: <http://sig.reachoflouisville.com>

Analysis: Kentucky's unemployment rate came from 4.1% in 2000 to a high of 6.2% in 2003 before beginning to move downward again in 2004 to a 5.3%. In comparison, Madison County saw a steady rise in its unemployment rate from a 2.7% in 2000 to a high of 6.5% in 2004.

Madison and Peer Counties Comparison, Percent of Enrolled Public School Students Receiving Either Free or Reduced Priced Lunches, 2000 to 2004*



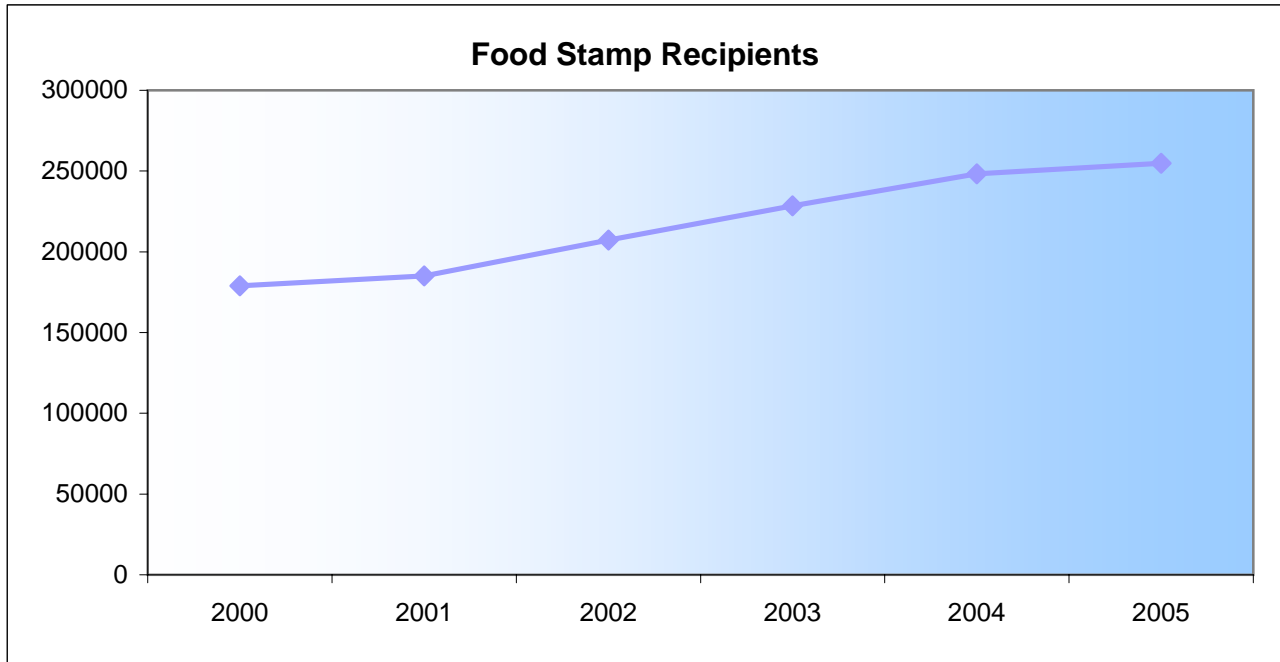
| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------------|---------------|---------------|---------------|------------|---------------|---------------|
| Warren | 41.70% | 42% | 44.90% | 43.70% | 44.40% | 44.20% |
| Madison | 44.10% | 46.10% | 44.80% | 41% | 42.50% | 44.70% |
| Christian | 62.90% | 59.90% | 61.50% | 62.10% | 61.60% | 61.60% |
| Campbell | 37.20% | 36.20% | 37.10% | 35.70% | 38.20% | 40.10% |

Source: <http://sig.reachoflouisville.com>

Analysis: In the six year time period, Madison County saw a high of approximately 46% of students in the public school system receive free or reduced priced lunches in the school year ending in 2002. In the school year ending in 2005, approximately 45% of public school students receiving the same assistance. Of the peer counties, only Christian County ended its 2005 school year with a higher percentage of students

* Year listed indicates the ending year. For example, 2000 indicates the school year 1999-2000.

Kentucky, Number of Children Under the Age of 19 Who Were Food Stamp Recipients, 2000 to 2005

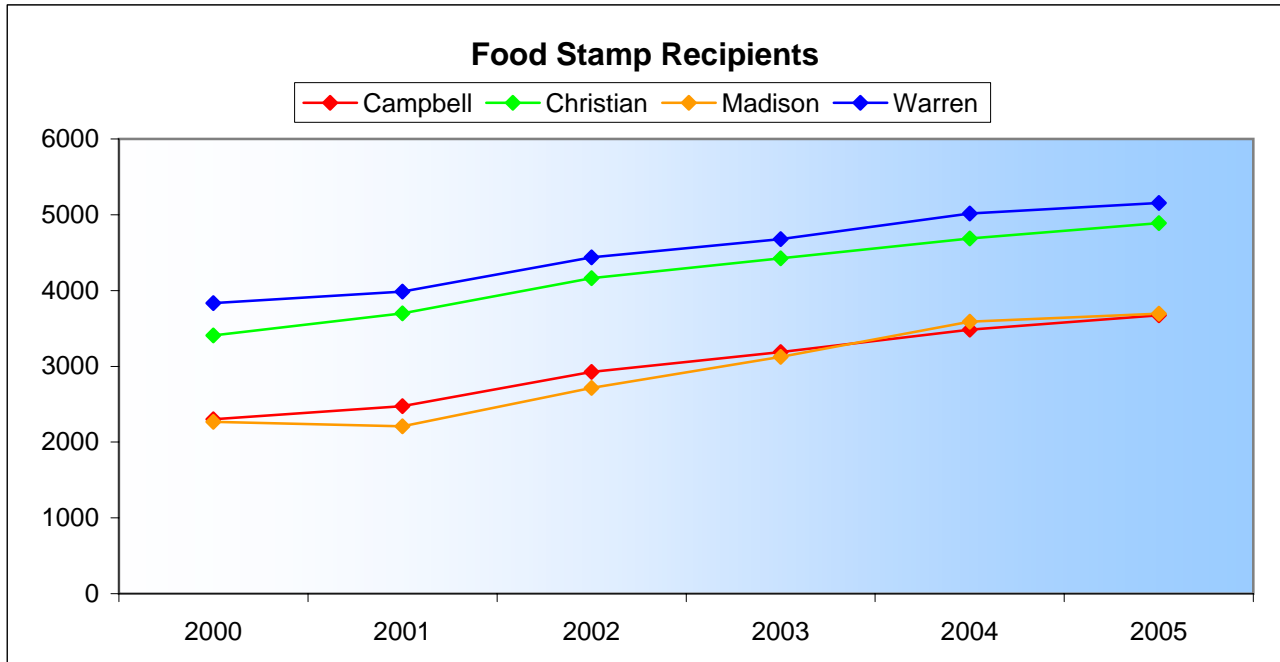


| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------|--------|--------|--------|--------|--------|--------|
| Kentucky | 178844 | 185078 | 207322 | 228393 | 248372 | 254863 |

Source: <http://sig.reachoflouisville.com>

Analysis: From 2000 to 2005, Kentucky saw an increase of 76, 019 individuals under the age of 19 receiving food stamps.

Madison and Peer Counties Comparison, Number of Youth Under the Age of 19 Who Were Food Stamps Recipients, 2000 to 2005

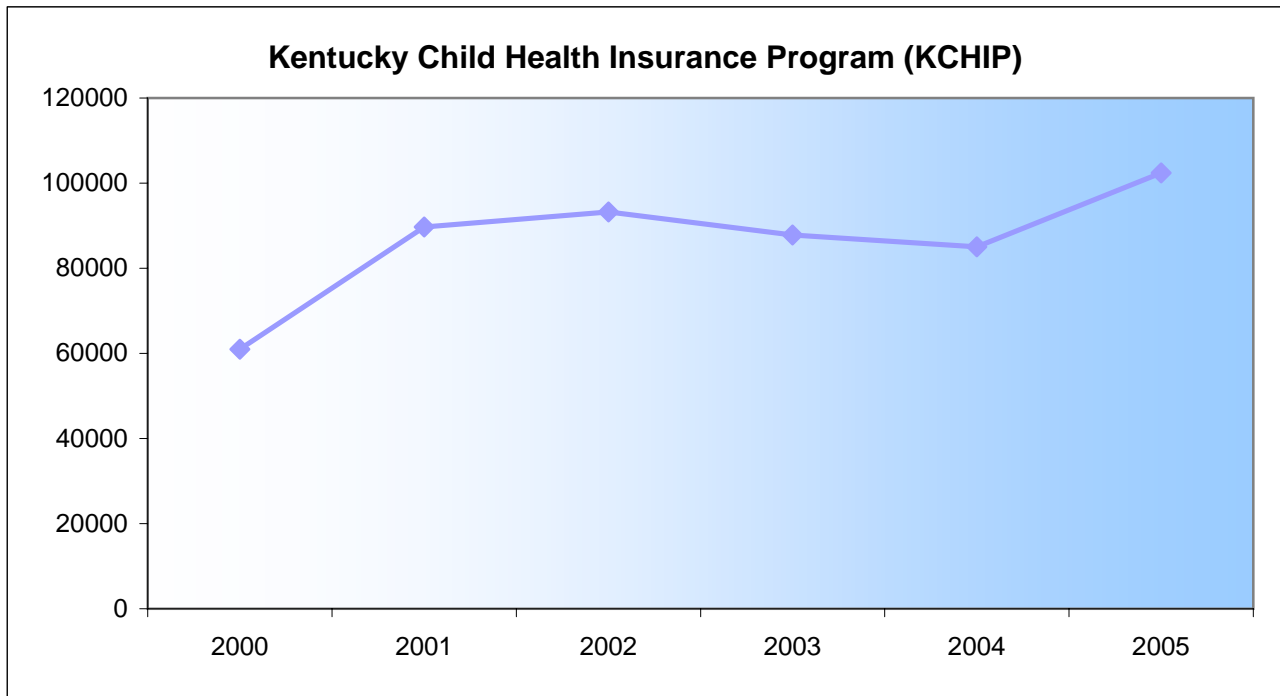


| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-----------|------|------|------|------|------|------|
| Campbell | 2302 | 2476 | 2927 | 3189 | 3482 | 3675 |
| Christian | 3409 | 3698 | 4165 | 4424 | 4686 | 4891 |
| Madison | 2266 | 2208 | 2715 | 3126 | 3587 | 3696 |
| Warren | 3835 | 3985 | 4439 | 4677 | 5015 | 5154 |

Source: <http://sig.reachoflouisville.com>

Analysis: All counties had an increase in the numbers of youth under the age of nineteen who received food stamps from 2000 to 2005. Warren County had the greatest increase with Madison County and Campbell County having the least numbers on recipients of the four county comparison. Madison County had an increase of 1430 individuals in the six year time period.

Kentucky, Children Under Age 19 Enrolled in the KY Child Health Insurance Program (KCHIP),* 2000-2005



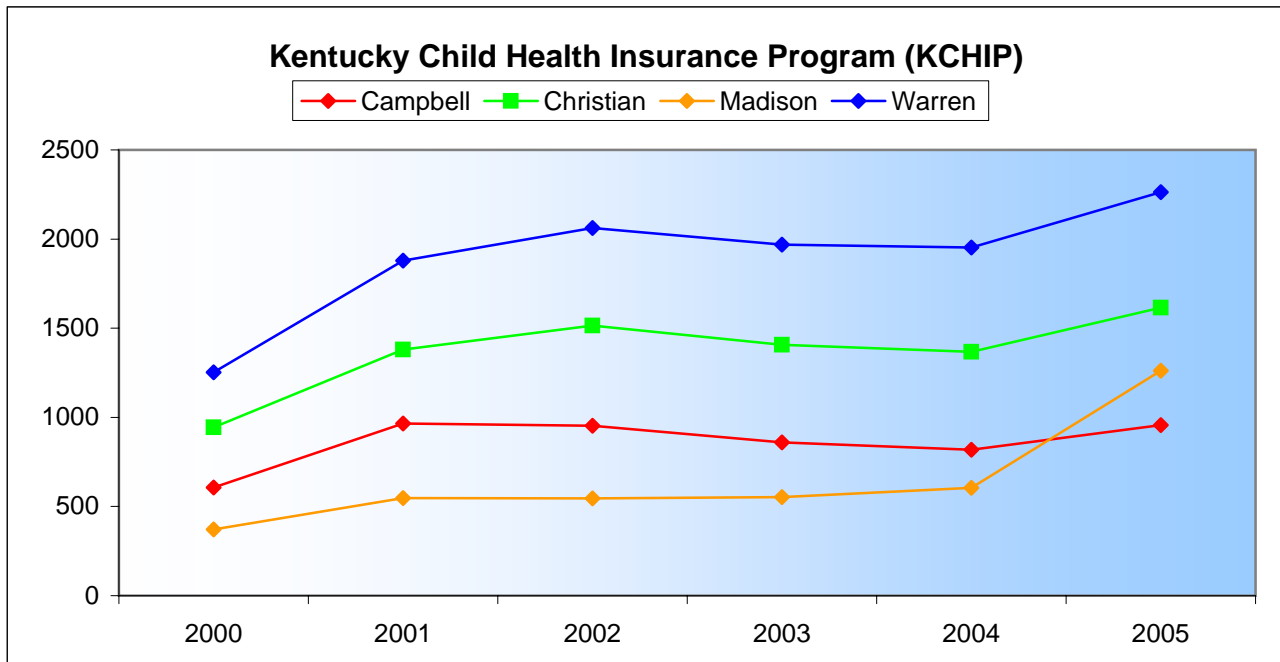
| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------|-------|-------|-------|-------|-------|--------|
| Kentucky | 60963 | 89715 | 93219 | 87799 | 85075 | 102434 |

Source: <http://sig.reachoflouisville.com>

Analysis: From 2000 to 2005, Kentucky experienced an increase of 41, 471 youth receiving coverage in the Kentucky Child Health Insurance Program (KCHIP.) The largest growth in recipients occurred from 2000 to 2001 with an increase of 28,752. The second largest growth period was from 2004 to 2005, with 17,356 recipients enrolled.

* KCHIP is a federal and state funded program to provide health insurance to children (ages 0-19) in families that earn too much income to be eligible for Medicaid or do not receive health insurance for dependents through an employer.

Madison and Peer Counties Comparison, Number of Youth Under Age 19 Enrolled in the KY Child Health Insurance Program (KCHIP), 2000-2005

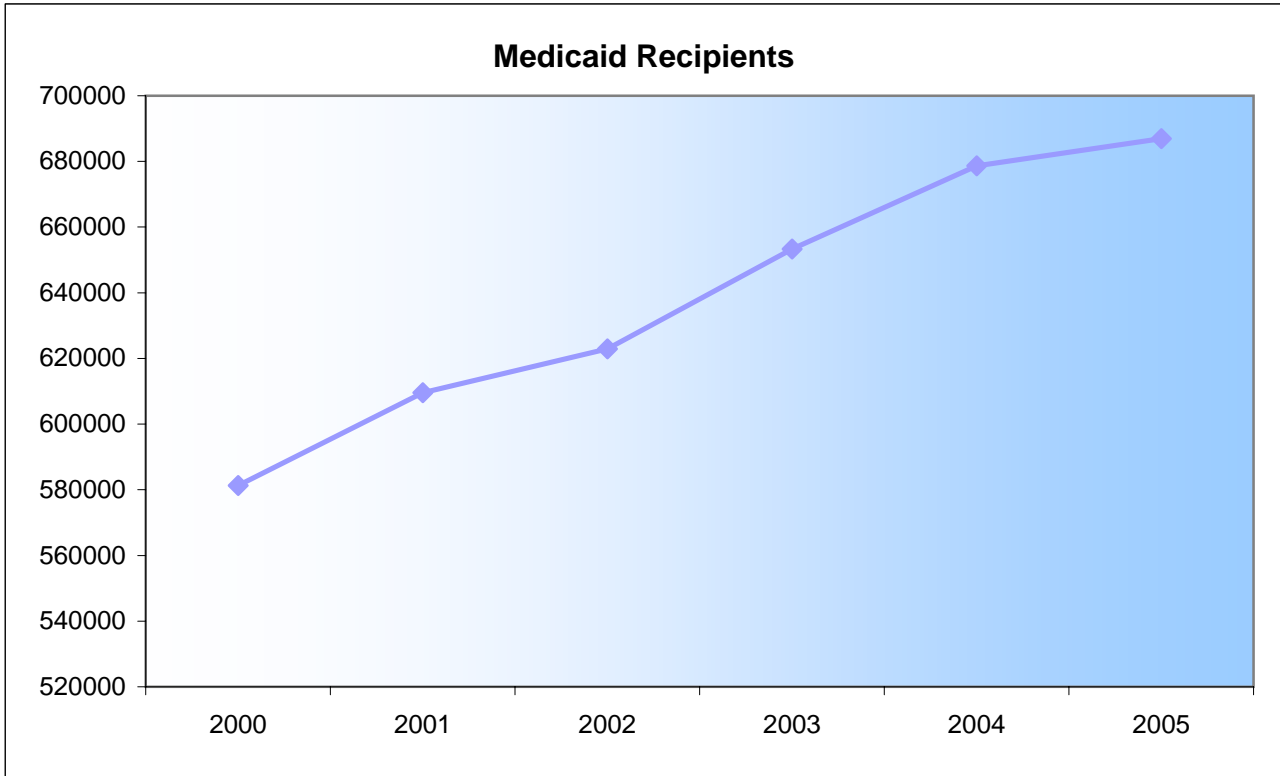


| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-----------|------|------|------|------|------|------|
| Campbell | 606 | 966 | 953 | 860 | 819 | 956 |
| Christian | 944 | 1381 | 1514 | 1407 | 1367 | 1615 |
| Madison | 371 | 548 | 545 | 553 | 604 | 1262 |
| Warren | 1253 | 1879 | 2062 | 1969 | 1953 | 2263 |

Source: <http://sig.reachoflouisville.com>

Analysis: Of the four peer county comparison, Warren and Madison Counties had the largest numbers of youth enrolled in the KCHIP over the six years. Madison County experienced the greatest number of enrolled youth from 2004 to 2005 with an increase of 658 individuals, approximately 48% increase.

Kentucky, Total Number of Medicaid Recipients, 2000-2005

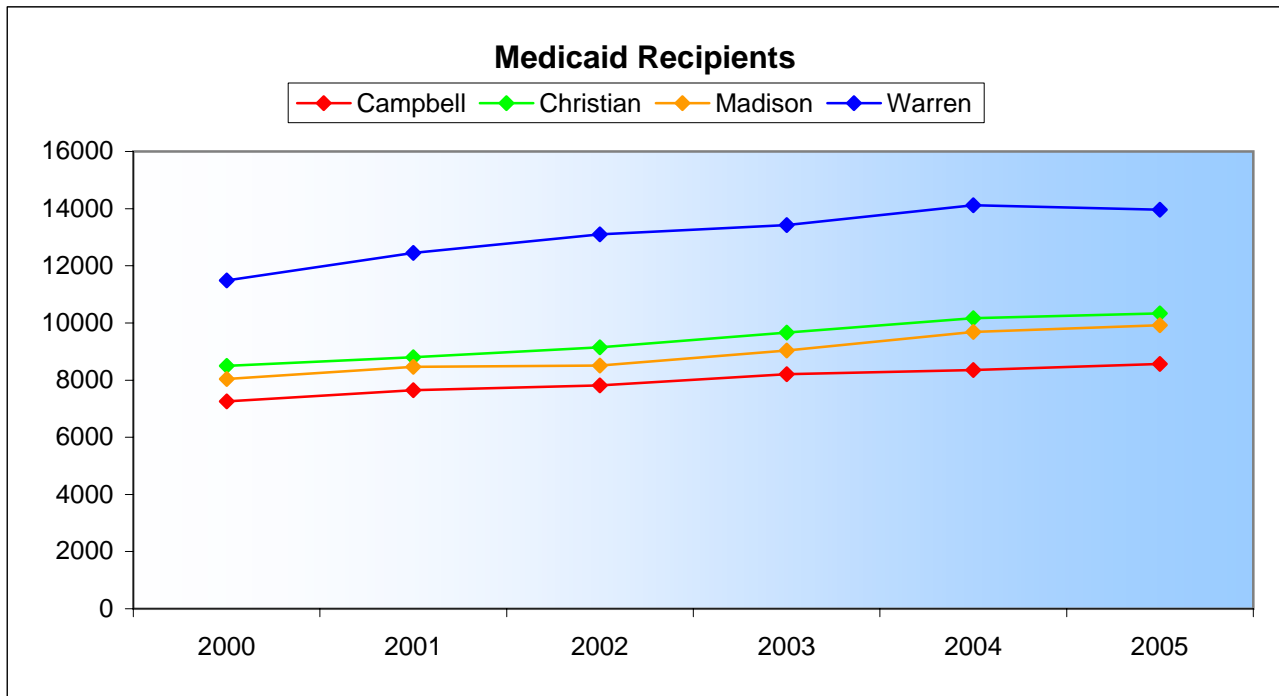


| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------|--------|--------|--------|--------|--------|--------|
| Kentucky | 581251 | 609606 | 622900 | 653338 | 678674 | 686925 |

Source: <http://sig.reachoflouisville.com>

Analysis: Kentucky had an increase of 105,679 individuals receiving Medicaid from 2000 to 2005.

**Madison and Peer Counties Comparison,
Total Number of Medicaid Recipients, 2000 to 2005**

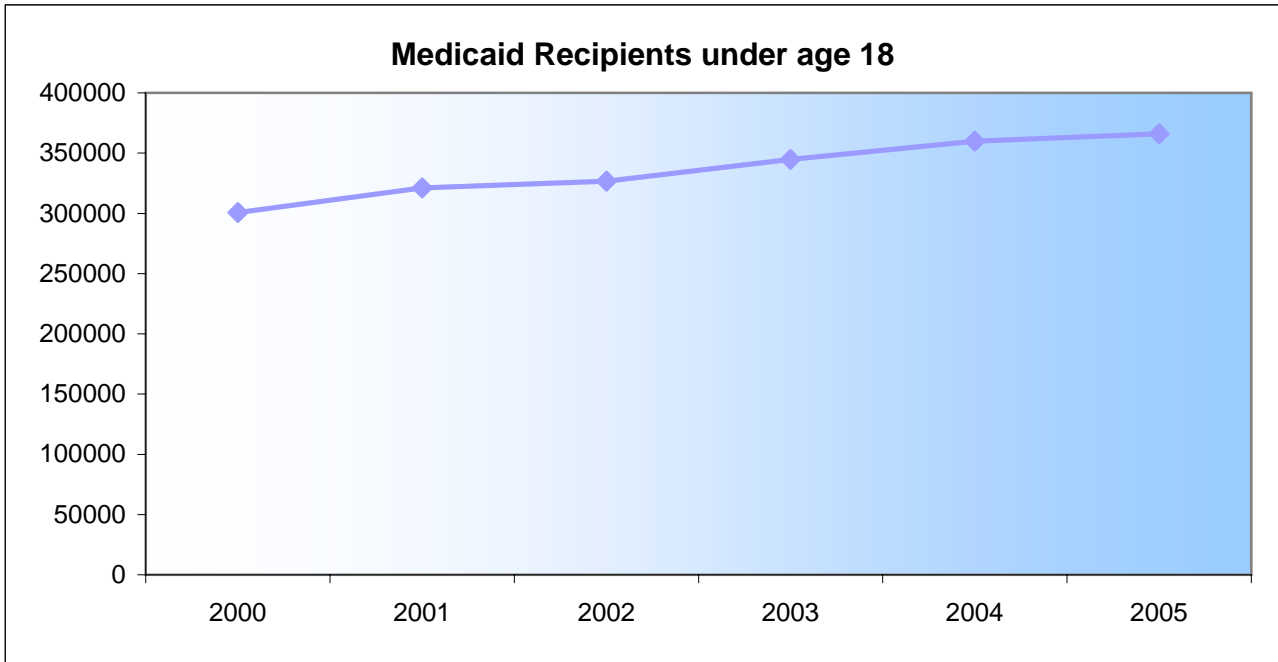


| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Campbell | 7260 | 7642 | 7814 | 8205 | 8357 | 8565 |
| Christian | 8496 | 8805 | 9153 | 9667 | 10168 | 10336 |
| Madison | 8041 | 8469 | 8513 | 9031 | 9682 | 9920 |
| Warren | 11487 | 12446 | 13098 | 13421 | 14120 | 13959 |

Source: <http://sig.reachoflouisville.com>

Analysis: Madison and peer counties experienced a gradual rise in Medicaid recipients from 2000 to 2005. Madison County had an increase of approximately 8% during that time period.

Kentucky, Medicaid Recipients under age 18, 2000 to 2005

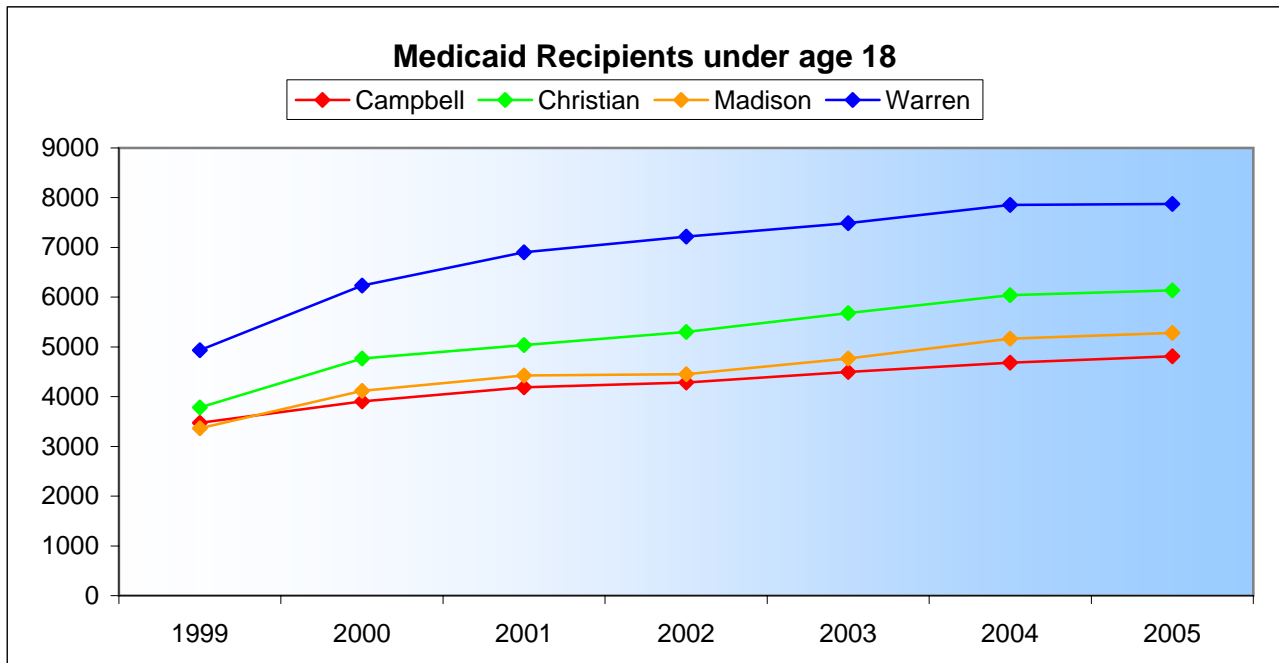


| Area | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------|--------|--------|--------|--------|--------|--------|
| Kentucky | 300602 | 321223 | 326573 | 344825 | 359908 | 366110 |

Source: <http://sig.reachoflouisville.com>

Analysis: From 2000 to 2005, Kentucky's number of Medicaid recipients rose by approximately 8 percent.

**Madison and Peer Counties Comparison,
Number of Medicaid Recipients under age 18, 2000 to 2005**

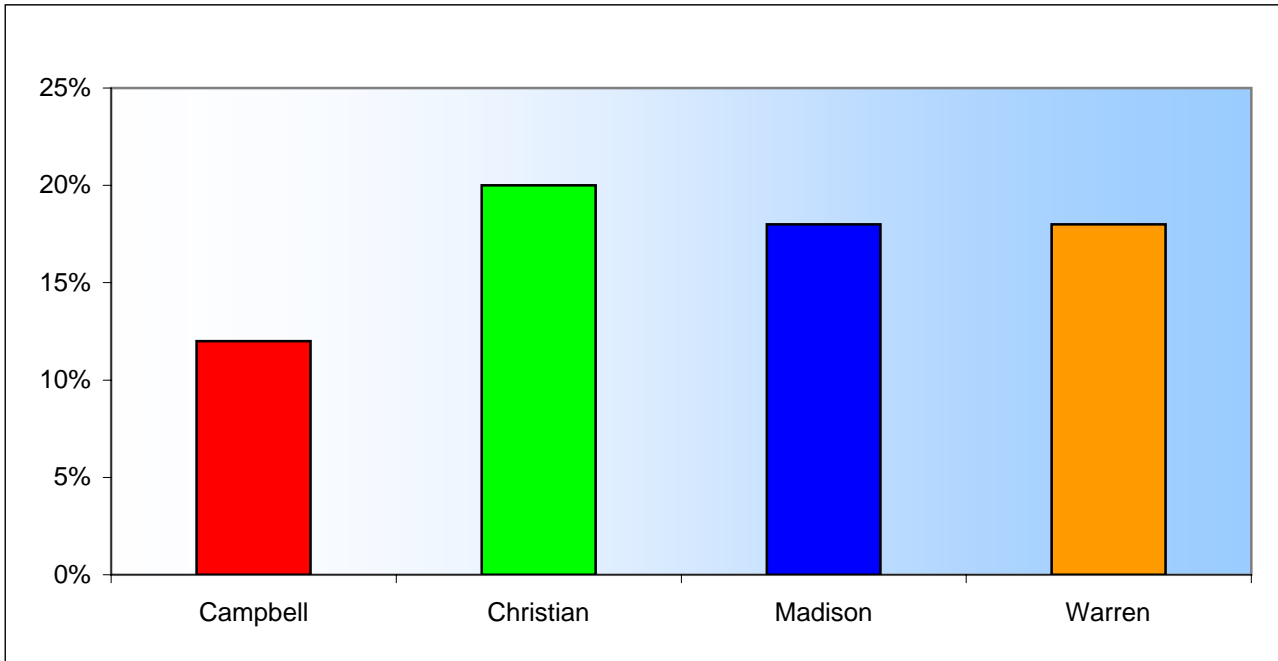


| Area | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Campbell | 3471 | 3906 | 4186 | 4284 | 4497 | 4685 | 4814 |
| Christian | 3781 | 4768 | 5039 | 5298 | 5681 | 6042 | 6135 |
| Madison | 3362 | 4116 | 4424 | 4449 | 4767 | 5168 | 5284 |
| Warren | 4937 | 6235 | 6906 | 7219 | 7488 | 7854 | 7876 |

Source: <http://sig.reachoflouisville.com>

Analysis: Madison and peer counties experienced an increase in the number of Medicaid recipients under the age of 18. Warren County had the greatest increase, followed by Campbell County. Christian and Madison Counties had similar increases and were the lowest of the comparison group.

Madison and Peer Counties Comparison, Percent of Child Poverty, 2001

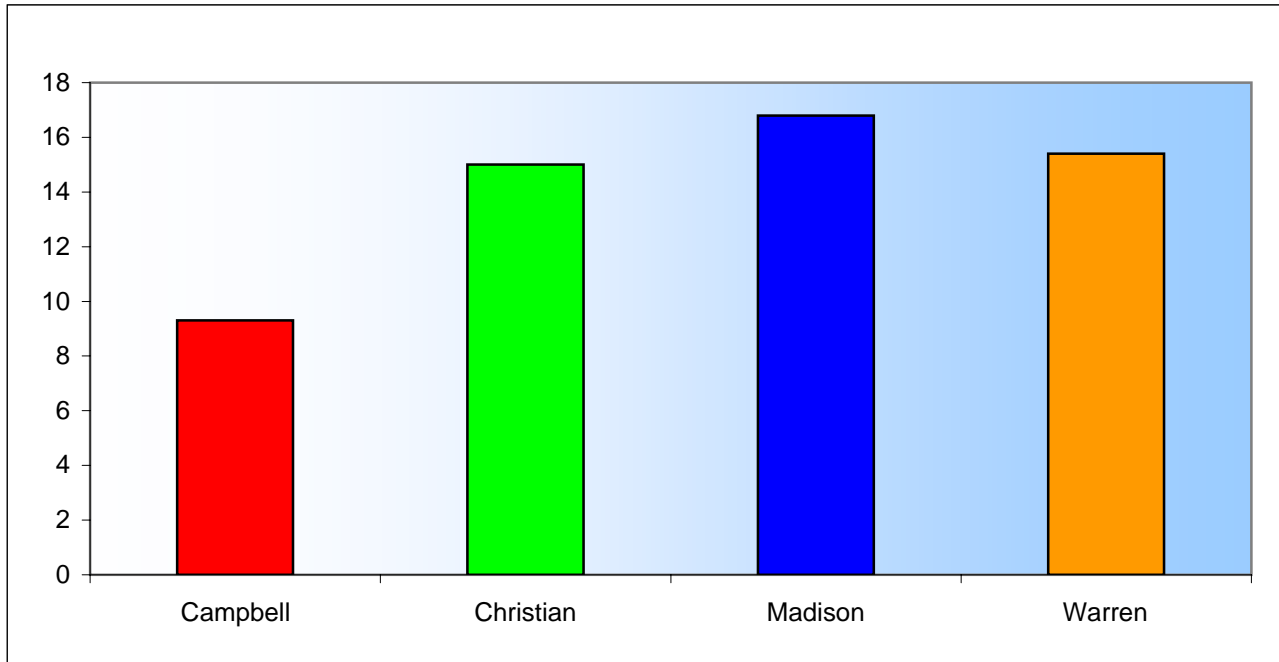


| Area | % Child poverty rate |
|----------------|-----------------------------|
| Campbell | 12% |
| Christian | 20% |
| Madison | 18% |
| Warren | 18% |

Source: <http://sig.reachoflouisville.com>

Analysis: Madison and peer counties, Christian and Warren, had similar percentage of children living in poverty according to the 2001 KIDS Count.

Madison and Peer Counties Comparison, All Ages Living in Poverty, 2000

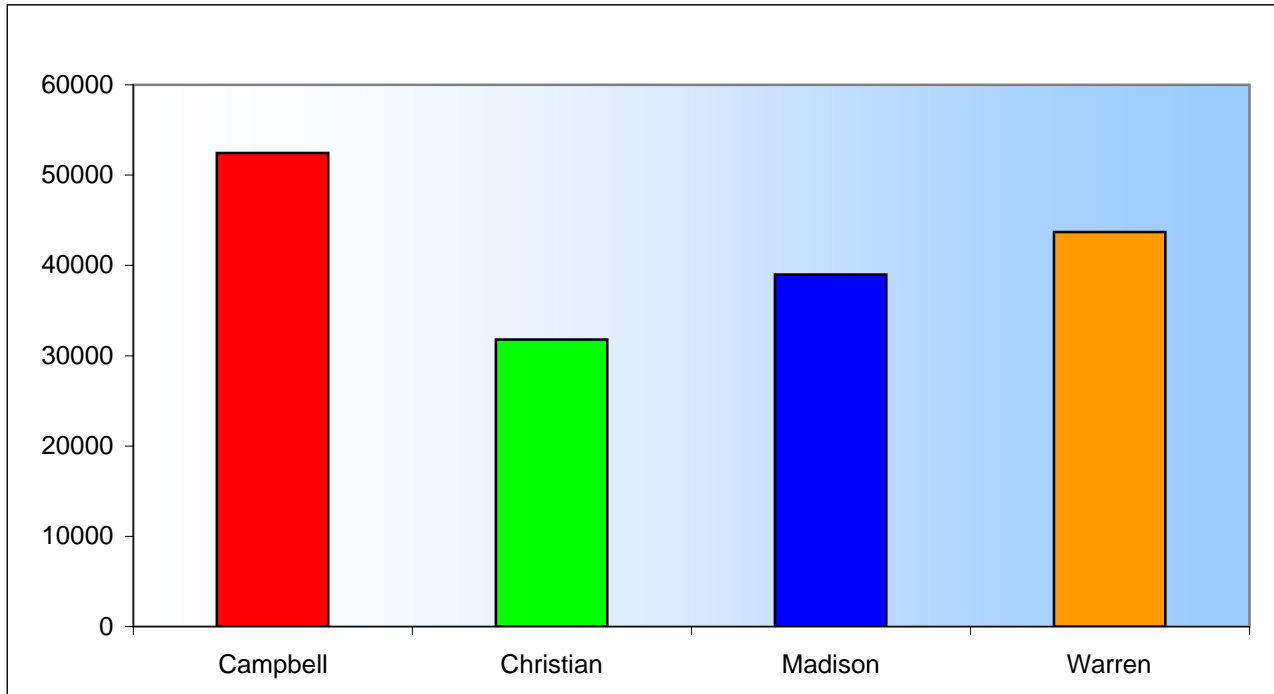


| <u>Area</u> | <u>Living in poverty (all ages)</u> |
|----------------|-------------------------------------|
| Campbell | 9.3 |
| Christian | 15 |
| Madison | 16.8 |
| Warren | 15.4 |

Source: <http://sig.reachoflouisville.com>

Analysis: Of the four peer counties, Madison had the highest percentage of persons of all ages living in poverty in 2000.

**Madison and Peer Counties Comparison,
Number of Medium Income Families with Children, 2000**

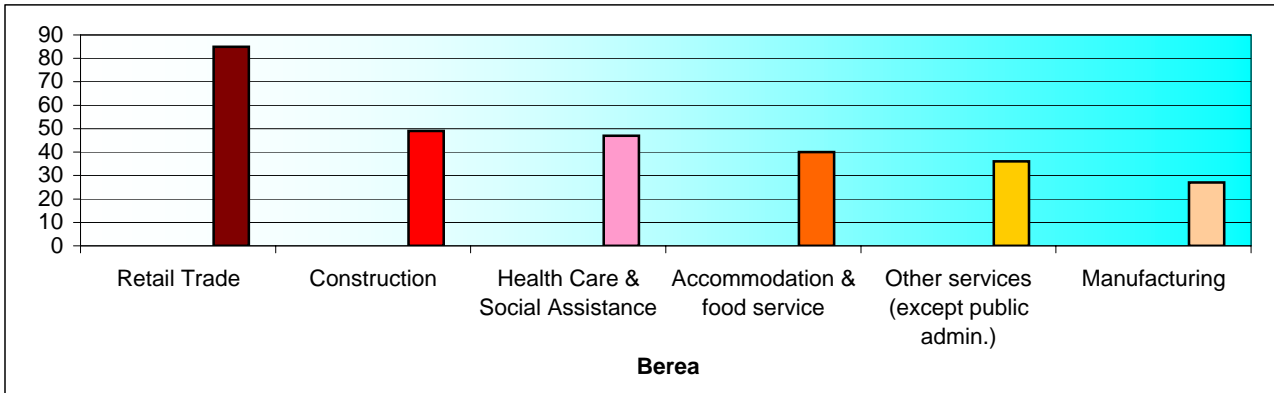


| Area | Median income families with children |
|----------------|---|
| Campbell | 52467 |
| Christian | 31790 |
| Madison | 39000 |
| Warren | 43680 |

Source: <http://sig.reachoflouisville.com>

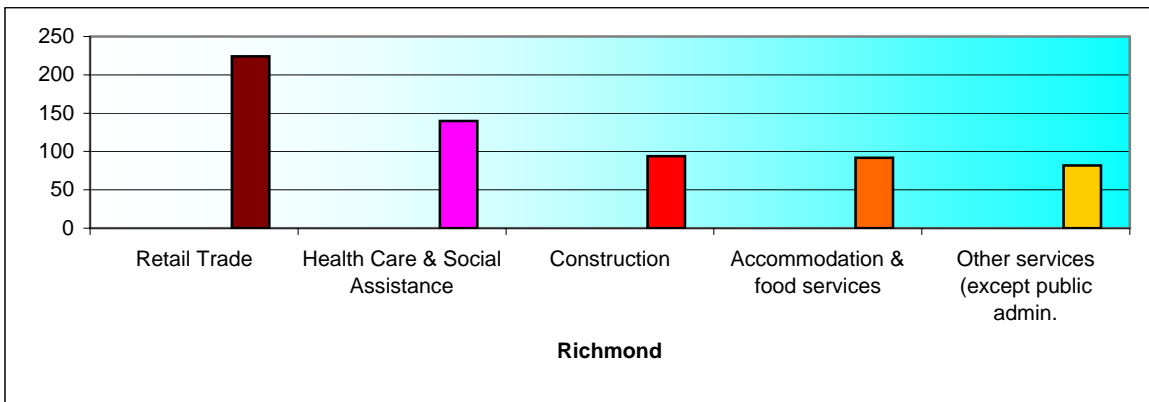
Analysis: Both peer counties of Campbell and Warren had families with children reporting larger medium incomes than Madison County.

**Madison County (Berea & Richmond Zip Codes [40403 & 40475]),
Top Five Leading Revenue Generating Establishments, 2003**



| Type | Number |
|---------------------------------------|--------|
| Retail Trade | 85 |
| Construction | 49 |
| Health Care & Social Assistance | 47 |
| Accommodation & food service | 40 |
| Other services (except public admin.) | 36 |
| Manufacturing | 27 |

Analysis: In 2003, the two county cities had a total of 1,413 industry establishments providing employment for 20,769 individuals. The combined annual payroll for these establishments totaled \$189,809,532.



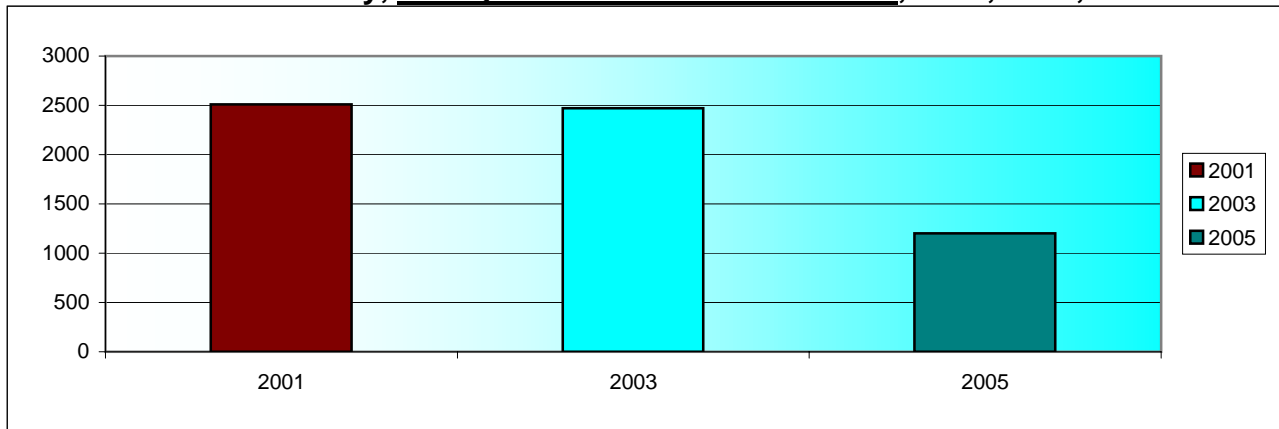
| Type | Number |
|---------------------------------------|--------|
| Retail Trade | 224 |
| Health Care & Social Assistance | 140 |
| Construction | 94 |
| Accommodation & food services | 92 |
| Other services (except public admin.) | 82 |

Source: <http://censtats.census.gov/cgi-bin/zbpnaic/zbpsect.pl>

Madison County, Agriculture Impact, 2002

Madison County has a rich history in farming. For years, farming the land produced most or all of the income for many families. In recent years, changes have occurred in the farming industry within the county. In 2002, according to the most recent total farm census, there were a total of 1,396 farms producing a total income from farm-related sources of \$1,809,000 (gross before taxes and expenses.) Cattle farms were number one followed by burley tobacco farming with a total of 572 farms producing. Burley tobacco has been the major crop for many county farms over the years, but that too has changed. Acres of burley tobacco harvested have declined and continue to do so. New farming ventures include edible produce for farmers' markets, sheep and goats, grapes for wine production, and nurseries.

Madison County, Burley Tobacco Acres Harvested, 2001, 2003, 2005



| Crop | 2001 | 2003 | 2005 |
|---------------------------------------|------|------|------|
| Burley Tobacco Acres Harvested | 2510 | 2470 | 1200 |

Source: www.nass.usda.gov/census/census02/volumn1/ky/st21_2_001_001.pdf

Health Resources Availability

Definition of Category: This section represents factors associated with the health care system capacity, which may include both the number of licensed and credentialed health personnel and the physical capacity of health facilities. In addition, the category of health resources include the measures of access, utilization, and quality of health care and prevention services. Service delivery patterns and roles of public and private sectors as payers and/or providers may also be relevant.

Madison County

Strengths

- Nursing shortage has not affected county
- Two hospitals located in county
- Five clinics accept medically indigent individuals
- Several nursing facility beds are established in local facilities
- Each city has an urgent treatment center

Weaknesses

- Inadequate mental health services for both acute hospitalization and rehabilitation
- Over a hundred registered nurses sought employment outside the county 2005-2007
- Too few health care providers accepting recipients of Medicaid
- Adult day care centers located in Richmond only
- Lack of geriatric health specialists

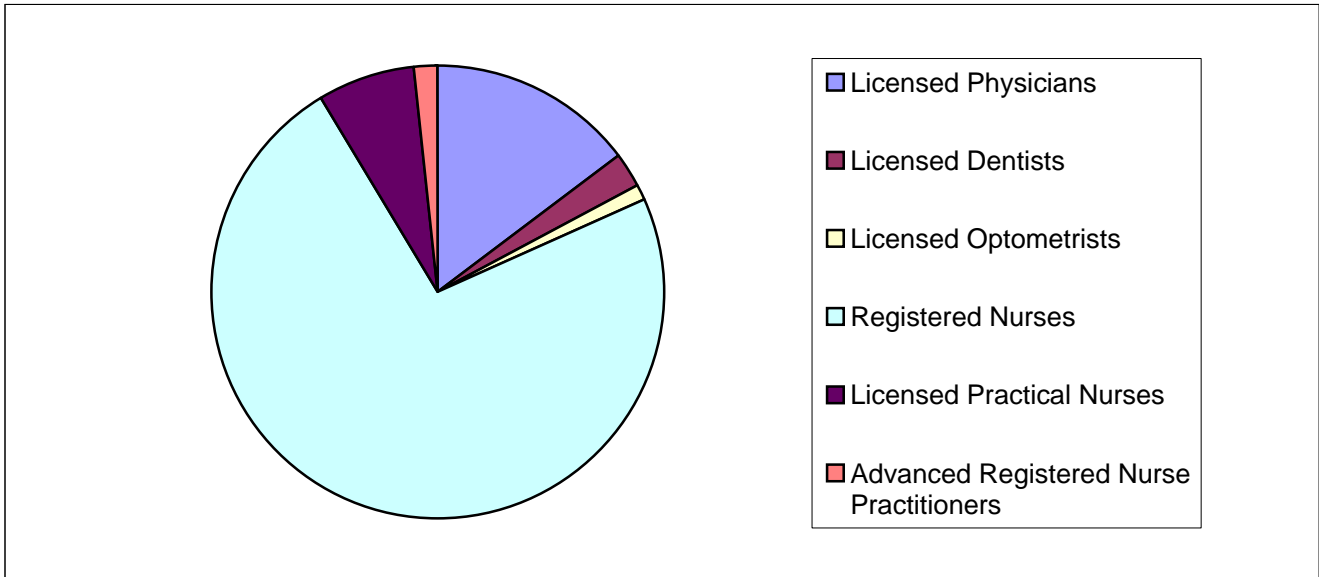
Opportunities

- Developing additional adult living communities with available health care services
- Increasing affordable mental health services
- Increasing health care providers who accept Medicaid
- Increasing numbers of health care providers with primary interest in geriatric care

Threats

- Increased aging population places higher demand for health care services focusing on chronic disease prevention and maintenance
- Declining incentives for health care providers to specialize in care of older adults and appropriate chronic disease management

Madison County, Health Resources Availability, 2005-2007



| Health Care Providers Employed in County | Number |
|--|--------|
| Licensed Physicians | 171 |
| Licensed Dentists | 29 |
| Licensed Optometrists | 14 |
| Registered Nurses | 844 |
| Licensed Practical Nurses | 83 |
| Advanced Registered Nurse Practitioners | 18 |

| Health Care Providers Accepting Medicaid | Number |
|--|--------|
| Medical Physician/Clinics Accepting Medicaid | 19 |
| Dentists Individual/Group Accepting Medicaid | 6 |
| Licensed /Optometrists Accepting Medicaid | 14 |

| Nurses Residing in County | Number |
|--|--------|
| Registered Nurses Residing in County | 1005 |
| Licensed Practical Nurses Residing in County | 126 |
| Advanced Registered Nurse Practitioners | 65 |

Sources: Kentucky Board of Nursing, <http://kbn.ky.gov/stats>;
 Kentucky Board of Medical Licensure,
<http://web1.ky.gov/GenSearch/LicenseList.aspx?AGY=5&FLD1=&FLD2=&FLD3=Madison&FLD4=0&TYPE=>
 Kentucky Board of Optometric Examiners,
<http://web1.ky.gov/GenSearch/LicenseList.aspx?AGY=8&FLD1=&FLD2=&FLD3=0&FLD4=MADISON & TYPE=>
 Kentucky Board of Dentistry, <http://web1.ky.gov/GenSearch/LicenseList.aspx?AGY=9&FLD1=&FLD2=BEREA&FLD3=&FLD4=&TYPE=>
<http://web1.ky.gov/GenSearch/LicenseList.aspx?AGY=9&FLD1=&FLD2=RICHMOND&FLD3=&FLD4=&TYPE=>

Hospitals, Health Care Facilities, and Clinics

Pattie A. Clay Regional Medical Center (PACRMC), a 105 acute care facility, is located in the county seat of Richmond. PACRMC has a long history of providing medical care for the county residents. Services include a variety of specialty clinics; general and orthopedic surgeries; women's health and obstetrical services. St. Joseph Berea, located in the southern end of the county, is a 41 bed acute care facility. Its affiliation with the St. Joseph Healthcare System Both hospitals bring specialists to serve the residents of Madison and surrounding counties. Individuals needing inpatient mental health care are referred to facilities outside of the county, usually to one of the hospitals located in the adjacent county of Fayette. An urgent treatment exits in both cities.

Five nursing facilities are located in the county. Richmond Health and Rehabilitation Complex has two facilities located in Richmond for a combined total of 181 beds. Telford Terrace, also a Richmond facility, has 26 beds. Berea is home to The Terrace Nursing and Rehabilitation Center, with 102 beds, and Berea Health Care Center, an 84 bed facility. There are two Richmond facilities that provide adult day care services and senior centers located in both Richmond and Berea. One older adult assisted living facility is located in Richmond. Both Richmond and Berea Housing Authority provide housing for adult individuals needing assistance to live independently.

In addition to the several independent and multiple primary care provider offices in both Richmond and Berea, there are five clinics serving Madison and surrounding counties. These consist of White House Clinic, with offices in both Richmond and Berea; Health Now located in PACRMC-Richmond; Berea Health Ministry Clinic; located in Berea; and Paint Lick Clinic, located in the small Paint Lick community on the border of Madison and Garrard counties. The White House Clinics, Federally Qualified Community Health Centers, receive federal funding to provide discounted services to those persons who are uninsured or indigent patients. Health Now, Berea Health Ministry Clinic and Paint Lick Clinic all see patients on a sliding fee schedule or for a nominal fee.

Madison County Health Department, the official local public health agency for Madison County, has the home office in Richmond with a satellite office located in Berea. MEPCO Home Health, a service of the health department serves Madison, Estill, and Powell Counties. In addition to the home health agency, the health department's mission of to protect, promote and improve the health of the community is carried out through the following services: disease prevention, health maintenance and promotion through clinic services; environmental services; early childhood interventions; and public health education in the community.

Outpatient mental health services are provided by the Bluegrass Regional Mental Health Mental Retardation Board, Inc. through the local Comprehensive Care Center with offices located in Richmond.

Health Resources Availability

Behavioral Risk Factors

Definition of Category: Risk factors in this category include behaviors which are believed to cause, or to be contributing factors to injuries, disease, and death during youth and adolescence and significant morbidity and mortality in later life.

Madison County

Strengths

Improved seat belt use from 2004-2006

Declining cigarette use among youth, except among middle school age girls

Increased physical activity among elementary school youth

Weaknesses

High tobacco use

Consume less than 5 fruits & vegetables per day

High occurrence of obesity

Lack of physical activity

Inadequate oral care

Inadequate seat belt use

Inadequate flu shot use

Inadequate breast screening

Opportunities

Increasing opportunities for both adults and youth to be more physically active

Increasing education on ways to eat more healthy foods at affordable prices

Increasing education on preventive oral health care for all ages

Continuing to focus attention on tobacco use prevention and tobacco products cessation

Increasing local policies and/or regulations preventing exposure to second hand smoke in public places

Continuing education on appropriate adult seat belt and child restraint use

Continuing education on flu vaccine use and healthy adult screenings

Threats

TV and video games that engage both adults & youth in sedentary activity

Increased marketing by fast foods chains to adults & youth

Busy working families who eat meals in cars "on the run" to another event

High costs to develop walking/biking paths

Costs of dental care prevents seeking needed help for uninsured or underinsured

Tobacco companies and special interest groups openly oppose policies or regulations that prohibits smoking in public places

Tobacco companies strong marketing strategies to engage new smokers, i.e. women and girls

Behavioral Risk Factors

Data available for the adult population is generally not measured by county specific. Data is available at the national, state and area development district level. For purposes of this report, the Bluegrass Area Development District (Bluegrass ADD) statistics are used as Madison County is a county within this district.

| Behavioral Risk Factor by Lifestyle | | | |
|--|----------------------------|-----------|--------------------------|
| Behavioral Risk Factor 2002 Report | National Median | KY | Bluegrass ADD |
| Substance Use and Abuse | | | |
| Tobacco Use (Current) | 23.00% | 32.60% | 27.50% |
| Heavy Drinking | 5.90% | 3.00% | 3.50% |
| Binge Drinking | 16.10% | 7.90% | 8.20% |
| Lifestyle | | | |
| Nutrition+ | 77.30% | 79.80% | 80.50% |
| Obesity | 22.00% | 24.40% | 20.10% |
| Physical Activity++ | 24.40% | 26.60% | 23.50% |
| Oral Health+++ | 31.10% | 29.80% | 24.80% |
| Protective Factors (safety) | | | |
| Seatbelt Non-use+++ | 23.00% | 25.60% | 24.60% |
| Child Safety Seat Use | | | |
| Bicycle helmet Use | | | |
| Immunization, No Flu Shot in Past Year, Age 50 and Older | 48.80% | 49.90% | 49.40% |
| Screening | | | |
| No Cervical Screening in the Past 3 Years, Females Age 18 or Older | 13.20% | 15.10% | 13.90% |
| No Breast Cancer Screening in the Past 2 Years, Females Age 50 and Older | 28.80% | 29.80% | 30.00% |

Note: + Nutrition: Less than Five Fruits and Vegetables A Day

Note: + + Physical Activity: Lack of Leisure Time Physical Activity

Note: +++ Oral Health: No Professional Dental Cleaning in Past Year

Note: ++++ Seat Belt Non-Use: Do Not Always Wear a Seat Belt

Behavioral Risk Factors

| Bluegrass Area Development District (BGADD), Behavioral Risk Factors by Special Populations, Individuals, Age 18 or Older | | | | |
|--|-----------------------|--|----------------------------------|-------------------------------------|
| Behavioral Risk Factor, KY 2002 Report | Gender | Race(Ethnicity)/ Gender Subgroups | Income | Education |
| Substance Use and Abuse | | | | |
| Tobacco Use, Current , smokes @ least 100 cigarettes in life & now smoke every or some days | 34.8 % Males* | 36.0% African Americans/NH* 32.8% White/NH | 47.3% \$15,000-24,999* | 47.0% Less than high school* |
| Heavy Drinking , Males who avg. of more than 2 drinks day and females who avg. more than 1 drink/day in past 30 days | 4.7% Males* | 3.2% White/NH* 1.4% African American/NM | 6.8% \$25,000-34,999* | 5.2% Less than high school* |
| Binge Drinking , 5 or more drinks on 1 or more occasions in the past 30 days | 12.9% Males* | 8.1% White/NH* 1.4% African American/NH* | 11.9% \$50,000-74,999* | 7.7% Some post high school* |
| Lifestyle | | | | |
| Nutrition , Individuals who eat less than 5 fruits or vegetables a day | 82.8% Males* | 89.3% African American/NH* 79.7% White/NH | 86.2% Less than \$15,000* | 82.4% Less than high school* |
| Obesity , Individuals who have a body mass index (BMI) of greater than or equal to 30kg/m2 | 24.5% Females* | 38.7% African American/NH* 23.6% White/NH | 33.9% Less than \$15,000* | 33.9% Less than high school* |
| Physical Activity , Lack of Leisure time Physical Activity | 29.2% Females* | 27.6 African American/NH* 26.7% White/HN | 44.2% Less than \$15,000* | 45.2% Less than high school* |
| Oral Health , No Professional Dental Cleaning in Past Year | 33.0% Males* | 32.4% African American/NH* 29.8 White/NH | 50.3% Less than \$15,000* | 50.3% Less than high school* |
| Protective Factors (safety) | | | | |
| Seatbelt Non-use , Do Not Always use a Seat Belt | 34.2% Males* | 26.0 White/NH* 24.3% African American/NH | 33.4% \$25,000-34,999* | 31.1% Less than high school* |
| Immunization , No Flu Shot in Past year, Age 50 and Older | 50.4% Males* | 64.8% African American/NH* 49.4% White/NH | 57.4% \$15,000-24,999* | 52.1% Less than high school* |

Note: * Denotes highest prevalence group within population for each indicator.

Behavioral Risk Factors

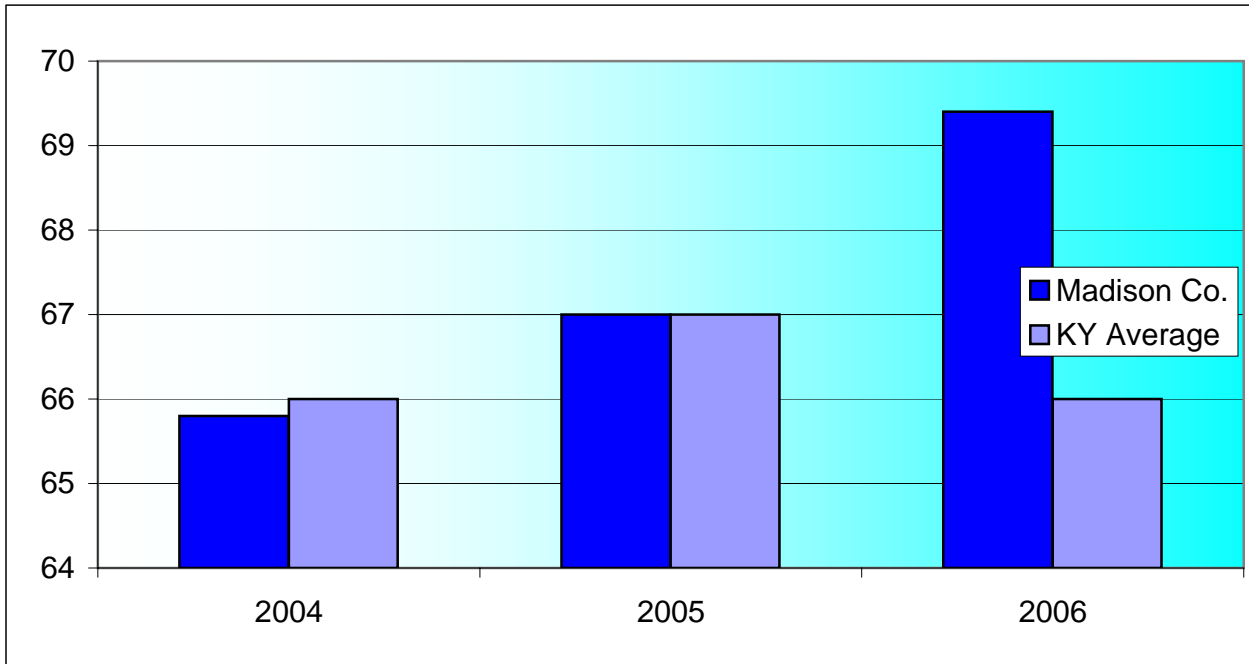
| Bluegrass Area Development District (BGADD), Behavioral Risk Factor by Special Populations, Individuals, Age 18 and Older | | | | |
|--|---|---|--|---|
| <u>Behavioral Risk Factor, KY, 2002</u> | <u>Gender</u> | <u>Race (Ethnicity)/ Gender Subgroups</u> | <u>Income</u> | <u>Education</u> |
| Screening | | | | |
| No Cervical Screening in the Past 3 years , Females Age 18 and Older | 23.6% 65+ years old* | 16.1% White/NH* 4.3% African/American/NH | 27.2% Less than \$15,000* | 27.2% Less than high school* |
| No Breast Screening in the Past 2 Years, females age 50 and Older | 33.3% 65.0+ years old* | 29.8% White/NH* 23.8% African American/NH | 45.9% Less than \$15,000* | 44.7% Less than high school* |

Note: * Denotes highest prevalence group within population for each indicator.

Source: Kentucky Behavioral Risk Factor Surveillance System 2002 Report, Cabinet for Health and Family Services, Department for Public Health, Division of Epidemiology and Health Planning, Surveillance and Health Data Branch, Frankfort, KY

Analysis: Of those risk factors measured in the Kentucky Behavioral Risk Factor Surveillance System 2002 Report, tobacco use was high for both the Bluesgrass ADD and Kentucky compared to the national median use. Highest population groups at risk were males, African American/non Hispanic, with moderately low income and less than a high school education. Adults in the district ate fewer than the recommended 5 fruits and vegetables; were less physically active and received less oral health than Kentucky and the nation. Adults used seatbelts less in the district than nationally, but higher than in Kentucky as a whole. Adults in the district and Kentucky received fewer flu shots when compared to the national level. Cervical cancer screening levels were comparable to the nation and higher than the Kentucky level. Breast cancer screening was lower in the Bluegrass ADD than in Kentucky and the nation for the same time period. White/Non Hispanic women, age 65+ years old, of low income and with less than a high school education, were at greatest risk of not receiving the recommended cervical and breast screenings.

Major risk factors: High Tobacco Use, Less than 5 fruits & Vegetables per Day, Obesity, Physical Inactivity, Inadequate Oral Health, Inadequate Seat Belt Use, Inadequate Flu Shot Use, Inadequate Breast Screening

Madison County, Seat Belt Usage Rate, 2004-2006

| Area Name | 2004 | 2005 | 2006 |
|-------------|------|------|------|
| Madison Co. | 65.8 | 67 | 69.4 |
| KY Average | 66 | 67 | 66 |

Source: <http://highwaysafety.ky.gov/trafficrecords.asp>

Analysis: From 2004 to 2006, a gradual improvement occurred in Madison's County seat belt usage and exceeded Kentucky's average in 2006. The Madison County Safety Coalition (MCSC), comprised of representatives from local health and social services agencies, school systems, law and fire departments, and citizens, have consistently focused on increasing seat belt usage in the community. A MCSC campaign, using road signs carrying "Always Buckle Up Children" message, have been placed at exits at schools, local parks, fire departments, some businesses, health department offices and along some city streets. Education on seat belt usage is provided in classroom and civic group presentations, at health and safety fairs, and through participation in other community coalitions and groups. Progress at the local level has improved but the seat belt usage at both the county and state level are considerably less than the national average of 82.0% in 2005.

Tobacco Use and Secondhand Smoke Exposure Prevention

Madison County Health Department has a long history of providing education on preventing smoking and providing smoking cessation groups. In October 2003, the Madison County Board of Health issued a Proclamation on Secondhand Smoke in Public Places. A community wide education and awareness campaign was initiated to address the many issues confronted by the general public, businesses, public access buildings and individuals related to exposure to secondhand smoke.

Access to the following reports may be obtained on the health department's website:
www.madison-co-ky-health.org/SHReports.htm

Indoor Air Monitoring Study: Richmond and Berea 2005

Madison County's Opinions Regarding Secondhand Smoke: An Assessment

Model Smoke Free Workplace Policy for Employers

Links to:

Kentucky Youth Tobacco Use Report 2006

Kentucky Tobacco Use Report 2005

*Kentucky Data Reports including Madison County School Policy Surveys &
Madison County Worksite Smoking Policy Surveys*

*The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report
of the Surgeon General, June 27, 2006*

Environmental Health Indicators

Definition of Category: The physical environment directly impacts health and quality of life. Clean air and water, as well as safely prepared food, are essential to physical health. Exposure to environmental substances such as lead or hazardous waste increases risk for preventable disease. Unintentional home, workplace, or recreational injuries affect all age groups and may result in premature disability and mortality.

Madison County

Strengths

Fewer restaurants failed inspections from 2003-2006
Decline in new septic tank systems; great access to public sanitation systems
Only 3 animals diagnosed with positive rabies from 2002-2005
Most county households on public water sources

Weaknesses

Some households still utilize well water or cisterns for family consumption
Some households still utilize septic systems for sanitary wastes collection

Opportunities

Preserving clean air and water supplies for personal uses and pleasure
Managing building growth to ensure adequate water supplies and safe disposal of wastes

Threats

Contaminated water and air supplies
Inadequate infrastructure to accommodate population growth

Environmental Health

Environmental Health Indicators

Madison County, Contaminated Wells

| Year | Samples Taken |
|-------------|----------------------|
| 2003-04 | 0 |
| 2005-06 | 1 |

Madison County, Septic Tanks

| Year | No. of New Systems |
|-------------|---------------------------|
| 2003-04 | 379 |
| 2004-05 | 352 |
| 2005-06 | 312 |

Madison County, Septic Tanks, Repairs/Alterations

| Year | No. of Failures |
|-------------|------------------------|
| 2003-04 | 115 |
| 2004-05 | 99 |
| 2005-06 | 69 |

Madison County, Sanitary Nuisance Complaints

| Year | No. of Complaints |
|-------------|--------------------------|
| 2003-04 | 25 |
| 2004-05 | 13 |
| 2005-06 | 21 |

Note: These includes complaints related to septic tanks, food services, etc.

Madison County, Radon Kits Dispensed for Home Testing

| Year | No. of Kits |
|-------------|--------------------|
| 2003-04 | 9 |
| 2004-05 | 12 |
| 2005-06 | 10 |

Madison County, Percent of Restaurants, Failed Inspections

| Year | No. of Failures |
|-------------|------------------------|
| 2003-04 | 46% |
| 2004-05 | 45% |
| 2005-06 | 38% |

Note: Percentage is based on approximately 200 restaurants and does not include grocery/deli combinations.

Environmental Health

Madison County, Positive Rabies

| <u>Year</u> | <u>Animal</u> |
|-------------|---------------|
| 2002 | goat |
| 2003 | 0 |
| 2004 | 2 skunks |
| 2005 | 0 |

Madison County, Water Quality

It is estimated that approximately 92% of the county water supply used for human consumption is fluoridated.

Source: Above information was reported by Environmental Services office of the Madison County Health Department.

Madison County, Outdoor Air Quality

| <u>Year</u> | <u>High Ozone Days</u> | <u>Particle Pollution (24) Grade</u> | <u>Particle Pollution (Annual) Grade</u> |
|-------------|------------------------|--------------------------------------|--|
| 2004 | 0 | C | PASS |
| 2006 | 0 | B | PASS |

Source: <http://lungaction.org.report/>

Madison County, Population Groups at Risk, 2006

| <u>Total Population</u> | <u><18 y.o.</u> | <u>65+ y.o.</u> | <u>Pediatric Asthma</u> | <u>Adult Asthma</u> | <u>Chronic Bronchiti</u> | <u>Emphysema</u> | <u>CVD</u> | <u>Diabetes</u> |
|-------------------------|--------------------|-----------------|-------------------------|---------------------|--------------------------|------------------|------------|-----------------|
| 76,208 | 16,603 | 7,589 | 1,406 | 4,877 | 2,390 | 836 | 17,423 | 3,637 |

Source: http://lungaction.org/reports/SOTA06_groupsatrisk.html?geo_area_id=21

Madison County, Exposure to Environmental Tobacco Smoke

In September 2005, an indoor air quality study was conducted in 15 Madison County establishments to measure levels of chemicals from the burning of cigarettes. The results showed the following results:

The level of indoor air pollution as measured by average $PM_{2.5}$ level was 23 times higher in Richmond, KY hospitality venues and 6.5 times higher in Berea, KY compared to similar locations in smoke-free cities around the United States (Figure 1). $PM_{2.5}$ is the concentration of particulate matter in the air smaller than 2.5 microns in diameter. Particles of this size are released in significant amounts from burning cigarettes and are easily inhaled deep into the lungs.

Source: <http://www.madison-co-ky-health.org/download/AirQuality05.pdf>

As a result of the Indoor Air Quality and a three year long public health education initiative conducted by the Madison County Health Department, the Board of Health (BOH) members proposed a Madison County Health Regulation (MCHR) 700.000 Clean Indoor Air at its December 2006 meeting. A second reading of the regulation was conducted at the BOH meeting in February 2007; two amendments were made. In April 2007, another reading will be held. If passed, MCHR 700.00 will become effective within 60 days of passage. Madison County Health department will become the first health department in the state of Kentucky to implement such a measure to protect the public from environmental tobacco smoke in public places. For a complete look at the health department's public health campaign related to this, go to website <http://www.madison-co-ky-health.org/SHSReports.html>

Social and Mental Health

Definition of Category: This category represents social and mental factors and conditions which directly or indirectly influence overall health status and individual and community quality of life. Mental health conditions and overall psychological well-being and safety may be influenced by substance abuse and violence within the home and within the community.

Madison County

Strengths

Decline in reported abuse and neglect/dependency of children from 2000 to 2003
Decline in collisions involving drinking drivers from 2000 to 2005

Weaknesses

Higher percentage of domestic violence rates than state for 2001-2003
Higher percentage of abuse cases reported to Adult Protective Services than at the state level from 2001-2003
Increase in drug arrests from 2000 to 2005

Opportunities

Increasing alcohol and drug use prevention education
Increasing enforcement of laws related to drug and alcohol misuse
Increasing rehabilitation services for addiction
Increasing services for victims of domestic violence; convictions of perpetrators

Threats

Increased availability of illicit and prescription drugs contributes to abuse
Misuse of drugs viewed as an alternative solution to poverty, unemployment, and coping
Determining who will pay for rehabilitation services for addictive disorders

**United States, Kentucky and Madison County Comparison,
Adult Self Reported Impaired Mental Health, 2002**

During the past 30 days, average number of days for which adults report that their mental health was not good. Individuals, age 18 and older who stated that they had 14 or more days of poor mental health when responding to the question " *Now thinking about your mental health, which included stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?*"

| <u>National Median</u> | <u>Kentucky</u> | <u>Bluegrass ADD</u> |
|-------------------------------|------------------------|-----------------------------|
| 8.70% | 18.70% | 15.50% |

Source: Kentucky Behavioral Risk Factor Surveillance System 2002 Report, Cabinet for Health and Family Services, Department for Public Health, Division of Epidemiology and Health Planning, Surveillance and Health Data Branch, Frankfort, KY

Analysis: Approximately 15.5% of adult residents with the Bluegrass ADD, of which Madison County is a part, identified themselves as having some symptoms associated with decreased mental health. While these results are lower than Kentucky's general population level, they exceed the national median level by 6.8%. Symptoms of impaired mental health have been associated with other social problems such as unemployment, substance use and abuse, maltreatment of children, committing of crimes, etc. In addition, impaired mental health is sometimes associated with chronic physical health, i.e., heart and lung diseases, diabetes, cancer, arthritis, just to name a few.

**Kentucky and Madison County Comparison,
Child Maltreatment, 2000-2003**

| <u>Types of Reported Abuse and Neglect/Dependency</u> | 2000 | | 2003 | |
|---|---------------|----------------|---------------|----------------|
| | | Madison County | | Madison County |
| | KY | | KY | |
| Physical Abuse Reports | 18,840 | 232 | 13,108 | 31 |
| Rate per 1,000 under age 18 | 28 | 15 | 13 | 5 |
| Percent substantiated | 25 | 24 | 23 | 20 |
| Sexual Abuse Reports | 4,558 | 54 | 4,585 | 22 |
| Rate per 1,000 under age 18 | 5 | 3 | 5 | 3 |
| Percent substantiated | 29 | 28 | 30 | 28 |
| Emotional Abuse Reports | 3,130 | 5 | 855 | 6 |
| Rate per 1,000 under age 18 | 3 | 0 | 1 | 1 |
| Percent substantiated | 14 | 20 | 21 | 0 |
| Neglect/Dependency Reports | 42,246 | 557 | 38,569 | 93 |
| Rate per 1,000 under age 18 | 42 | 36 | 38 | 14 |
| Percent substantiated | 31 | 32 | 36 | 31 |

Sources: <http://ksdc.louisvills.edu/kpr/kidscount/Pages2001/MadisonCounty.pdf>
<http://ksdc.louisville.edu/kpr/kidscount/Pages2001/Kentucky.pdf>
<http://ksdc.louisvills.edu.kpr/kidscount/data2004/KidsCountCountypages2004.xls>

Analysis: From 2000 to 2003, Kentucky saw a decline in all areas of reported maltreatment of children, except in the area of Sexual Abuse Reports. During the same time period, Madison County saw a decline in all areas. Percent of substantiated reports remained fairly steady in all areas for both state and county. The only exception to this was in the percentage of substantiated Emotional Abuse Reports. While Kentucky had an increase in the substantiated reports, Madison County had a significant decrease.

Madison County, Crimes Data, Total Arrests, 2000

| Part I Crimes | Adult | Juvenile | Unknown | Total |
|--------------------------------|--------------|-----------------|----------------|--------------|
| Murder | 2 | 0 | 1 | 3 |
| Forcible Rape | 4 | 0 | 0 | 4 |
| Robbery | 10 | 1 | 0 | 11 |
| Aggravated Assault | 53 | 3 | 1 | 57 |
| Burglary | 46 | 16 | 1 | 63 |
| Larceny-Theft | 283 | 37 | 12 | 332 |
| Auto Theft | 35 | 5 | 6 | 46 |
| Arson | 4 | 0 | 0 | 4 |
| TOTAL for Part I Crimes | 437 | 62 | 21 | 520 |

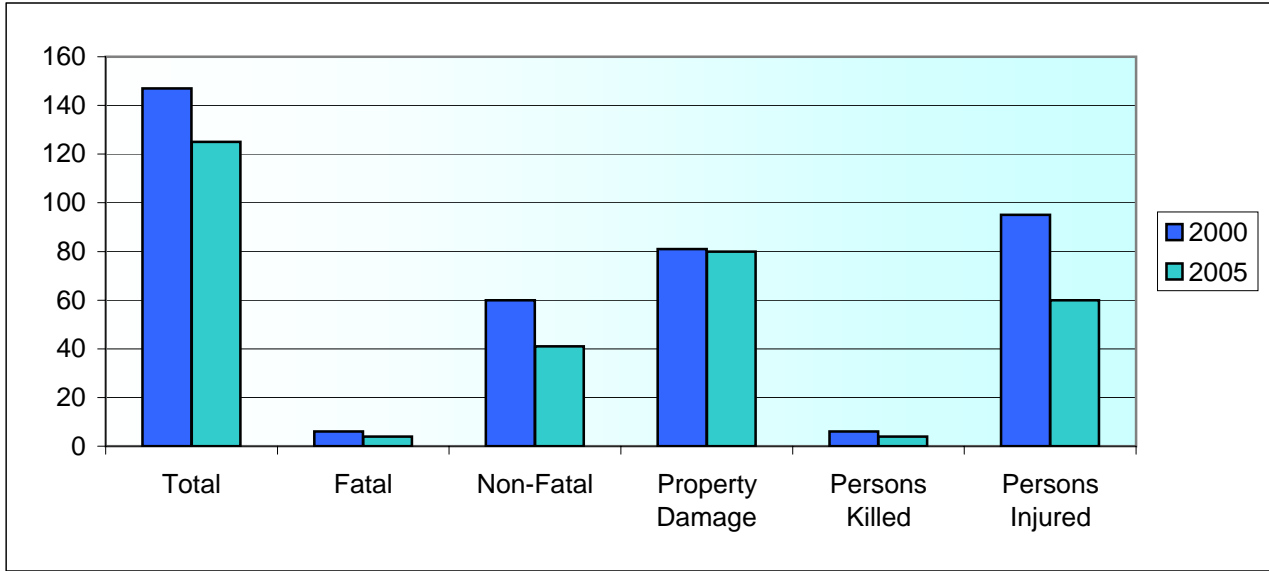
| Selected Part II Crimes | Adult | Juvenile | Unknown | Total |
|-------------------------------------|--------------|-----------------|----------------|--------------|
| Narcotic Drug Laws | 479 | 8 | 14 | 501 |
| Offences Against Family | 135 | 1 | 4 | 140 |
| Driving Under the Influence | 928 | 13 | 7 | 948 |
| Liquor Laws | 224 | 7 | 1 | 232 |
| Drunkenness | 837 | 9 | 6 | 852 |
| Disorderly Conduct | 513 | 23 | 19 | 555 |
| Fraud | 634 | 2 | 183 | 819 |
| Other Assaults | 626 | 52 | 35 | 713 |
| Runaways | 0 | 20 | 0 | 20 |
| All Other Offences (Except Traffic) | 731 | 45 | 26 | 802 |
| TOTAL for Part II Crimes | 5,544 | 242 | 316 | 6,102 |

Madison County, Drug Arrests, 2000 and 2005 Comparison

| Total Drug Law Arrests | 2000 | 2005 |
|---|-------------|-------------|
| Opium or Cocaine and Their Derivatives | 74 | 99 |
| Marijuana | 195 | 370 |
| Synthetic Narcotics Which Can Cause Drug Addition | 1 | 49 |
| Other Dangerous Non-Narcotic Drugs | 231 | 365 |
| Total Drug Law Arrests | 501 | 880 |

Sources: www.kentuckystatepolice.org/pdf/Crime%20in%KY%202000.pdf
www.kentuckystatepolice.org/pdf/cik2005.pdf

**Madison County, Collisions Involving Drinking Drivers,
2000 and 2005 Comparisons**

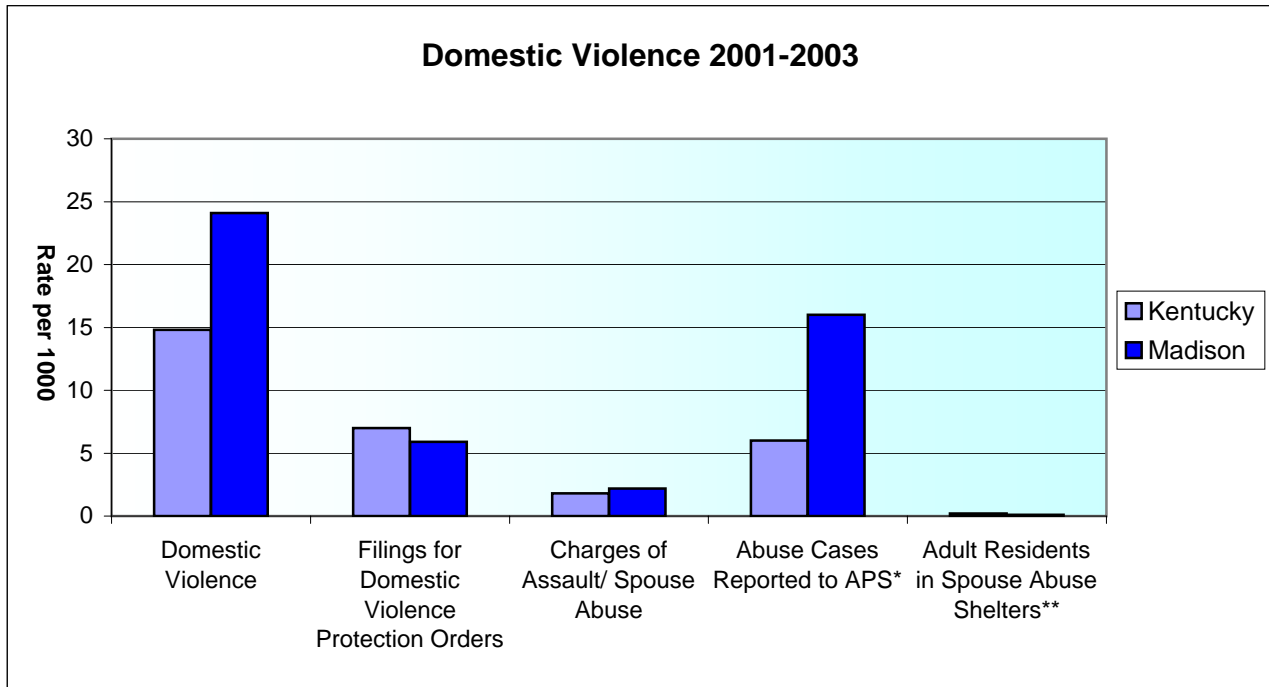


| Collisions | | 2000 | 2005 |
|------------------------|--|-------------|-------------|
| Total | | 147 | 125 |
| Fatal | | 6 | 4 |
| Non-Fatal | | 60 | 41 |
| Property Damage | | 81 | 80 |
| Persons Killed | | 6 | 4 |
| Persons Injured | | 95 | 60 |

Source: Crimes in Kentucky 2000 and 2005 Crime Report, www.kentuckystatepolice.org/pdf/cik2000.pdf and www.kentuckystatepolice.org/pdf/Crime%20in%20KY%202000.pdf

Analysis: The total number of reported collisions involving drinking drivers declined from 2000 to 2005. This resulted in a reported significant decline in non-fatal and persons injured categories, but fatalities, property damage and persons killed remained almost unchanged for the comparison years.

**Kentucky and Madison County Comparison,
Domestic Violence Rates, 2001-2003**



| <u>Area</u> | <u>Domestic Violence</u> | <u>Filings for Domestic Violence Protection Orders</u> | <u>Charges of Assault/ Spouse Abuse</u> | <u>Abuse Cases Reported to APS*</u> | <u>Adult Residents in Spouse Abuse Shelters**</u> |
|----------------|--------------------------|--|---|-------------------------------------|---|
| Kentucky | 14.8 | 7 | 1.8 | 6 | 0.2 |
| Madison | 24.1 | 5.9 | 2.2 | 16 | 0.1 |

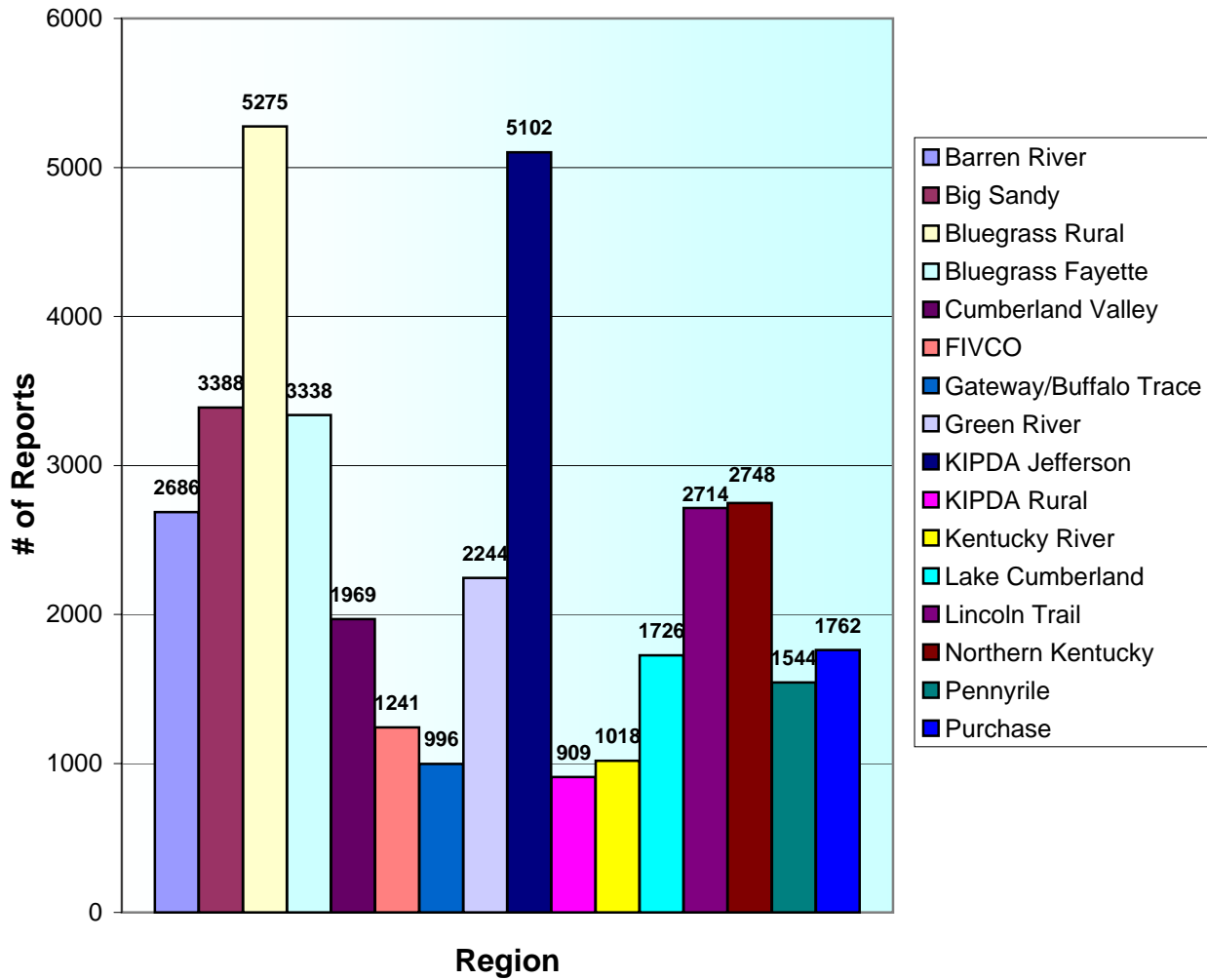
* Adult Protective Services (APS)

** Adult Residents in Shelters in 2002 only

Source: www.ca.uky.edu/heel/social/DV1/Madison.pdf

Analysis: For the compared time period, Madison County had a much higher reported rate of domestic violence than at the state level. Also abuse cases reported to adult protective services (APS) were double the rates reported at the state level. Domestic violence, like other abusive situations, are often unreported or underreported for various reasons. Reports related to domestic violence may be affected by how the incidents are interpreted or differences in terms used in reports. Individuals in abusive relations do not always seek services from shelters, adult protective services or law enforcement agencies.

Kentucky, Total Number of 18 - 59 APS* Reports by Region, SFY 2005

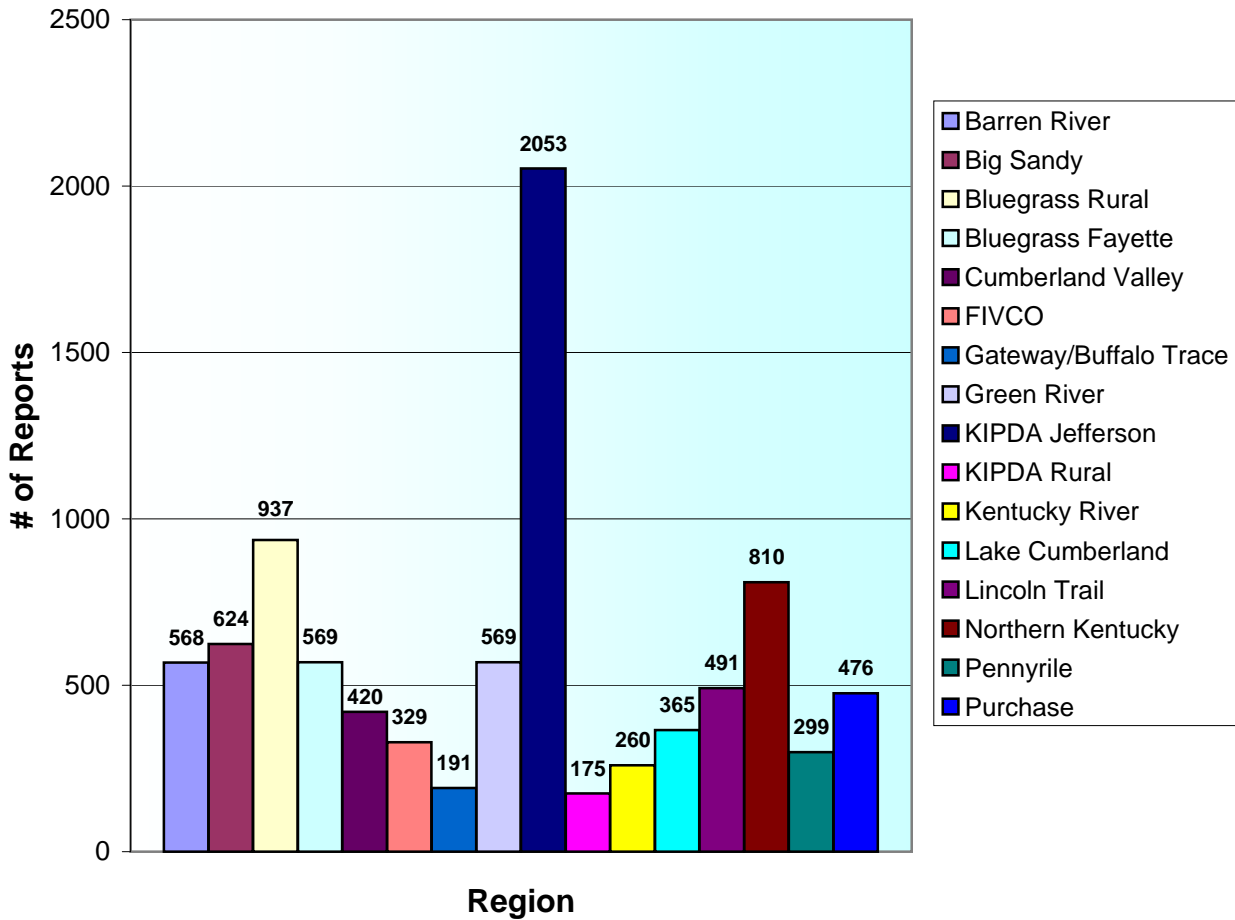


* APS - Adult Protective Service, Department of Community Based Services

Source: <http://chfs.ky.gov/NR/rdonlyres/551B06CB-B228-4E95-99EC-B14B6611BBB/69389/APSElderAbuseReport2005.doc>

Analysis: Types of reports listed in the Adult Protective Services survey included adult, spouse, partner, neglect by caretaker, self-neglect, and exploitation. The Rural Bluegrass, of which Madison County is a part, had the highest number of reports. Urban Bluegrass Region was the fourth highest reported area in the state. Total number of reports by the Department of Community Based Services in the Bluegrass Region increased by 8,429 from 2002 to 2005. Substantiated reports of abuse by spouse were the highest with 538; substantiated reports of partner abuse were second with 372.

Kentucky, Total Number of 60 plus APS Reports by Region, SFY 2005



Source: <http://chfs.ky.gov/NR/rdonlyres/551B06CB-B228-4E95-99EC-EB14B6611BBB/69389/APSElderAbuseReport2005.doc>

Analysis: The Rural Bluegrass Region was shown to have had the second highest number of reports of abuse among adults in the state. From 2002 to 2005, there was increase of 1,832 reports of abuse in the total Bluegrass Region for the 60 plus age group. Sixty-one incidence of self-neglect constituted the highest number substantiated reports; fifty-seven incidence of neglect by caretaker was the second highest. Abuse is often under reported for reasons such as fear, lack of knowledge about how to report, family/culture norms. The true burden of abuse is often hidden from the community due to laws protecting the victims. Department for Community Based Services, the agency charged with investigating the reports, is challenged by the number of increases in reports received.

Maternal and Child Health

Definition of Category: One of the most significant areas for monitoring and comparison relates to the health of a vulnerable population and children. This category focuses on birth data and outcomes as well as mortality data for infants and children. Because maternal care is correlate with birth outcomes, measures of maternal access to, and/or utilization of, care is included. Births to teen mothers is a critical indicator of increased risk for both mother and child.

Madison County

Strengths

Lower percentage of preterm births than at state level from 1999-2002
Approximately 88% of live births were to mothers receiving early prenatal care
Approximately only 2% of live births were to mothers receiving late/no prenatal care
Gradual decline in percentages of women who report smoking during pregnancy from 2002 to 2005
Approximately 27% of births were to unmarried mothers in 2000
Approximately 7% of grandparents served as caregivers for grandchildren in 2000
Gradual decline in births to females, ages 10-17, from 2000-2002

Weaknesses

Higher percentage of preterm births than nationally from 1999-2002
Approximately 3% of county births were considered Very Preterm or less than 32 completed week of pregnancy from 1999-2002
Approximately 21% of multiple delivery births were considered Very Preterm
Approximately 8% of births were of low birthweight (less than 5 1/2 pounds)
Approximately 9% of pregnant women received inadequate care during pregnancy
Approximately 22% of women reported smoking during pregnancy
Approximately 7% of children were being reared by grandparents due to parents being unavailable to parent

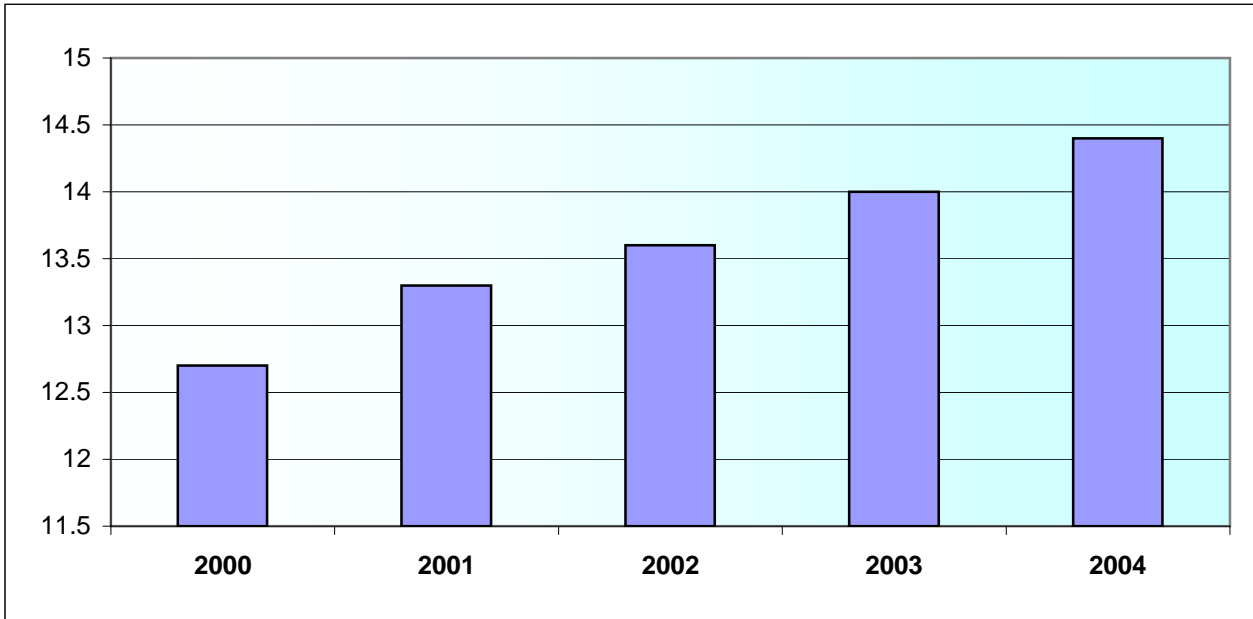
Opportunities

Increasing resources to assist pregnant women to quit smoking
Increasing education for pregnant women on the risks to the pregnancy as a result of tobacco use
Making an early diagnosis of pregnancy and referral for prenatal care
Continuing abstinence education and family planning resources in community for all females of childbearing age

Threats

Females delay seeking confirmation of pregnancy due to lack of knowledge about resources to help with prenatal care
Smoking is still not viewed as an addiction and thus not treated appropriately
Lack of available Hispanic interpreters to assist women who speak English as a second language during prenatal visits and deliveries

Kentucky, Number and Percent of Preterm Births,* 2000-2004



| Year | Percent | Number |
|------|---------|--------|
| 2000 | 12.7 | 7,092 |
| 2001 | 13.3 | 7,255 |
| 2002 | 13.6 | 7,368 |
| 2003 | 14 | 7,737 |
| 2004 | 14.4 | 8,026 |

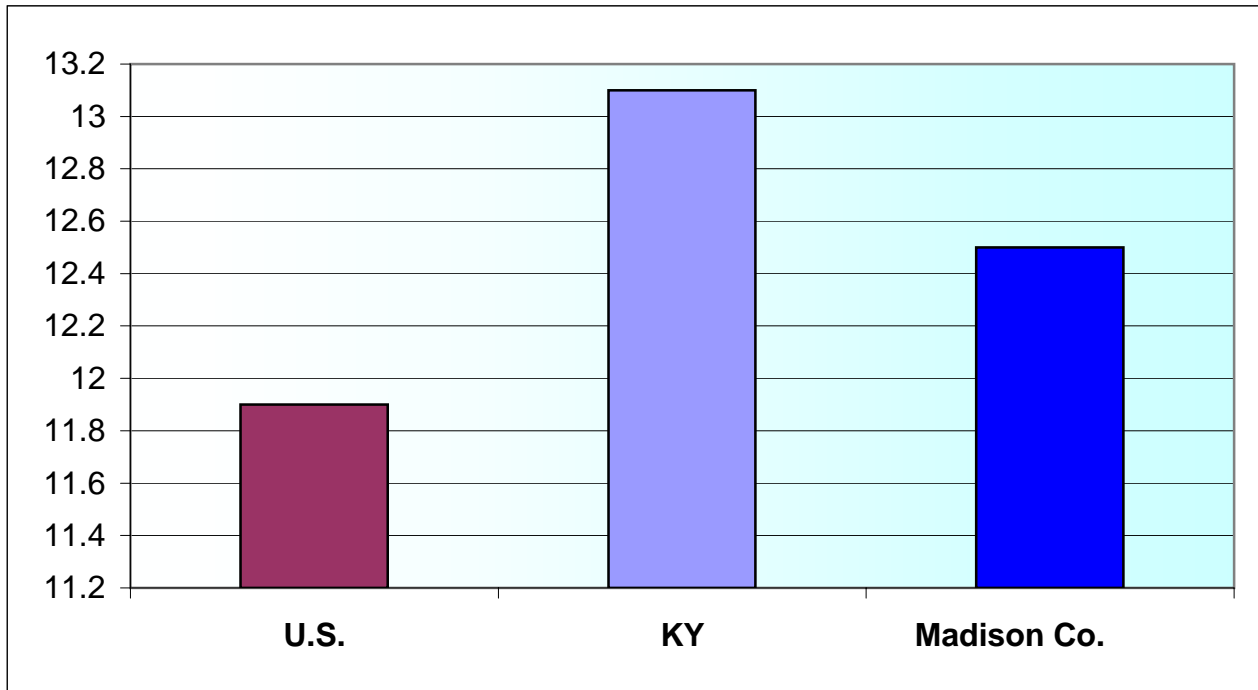
Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Kentucky has had a steady increase in the percentage of preterm births from 2002 to 2004. In 2004, there were 8, 026 preterm births in Kentucky. Between 1994 to 2004, the rate of infants born prematurely in Kentucky increased more than 24%.

* Preterm is less than 37 completed weeks of the pregnancy.

Healthy People 2010 Goal: Reduce to no more than 7.8% of live births.

**U.S., Kentucky and Madison County Comparison,
Percent of Preterm Births,
1999-2002 Average**

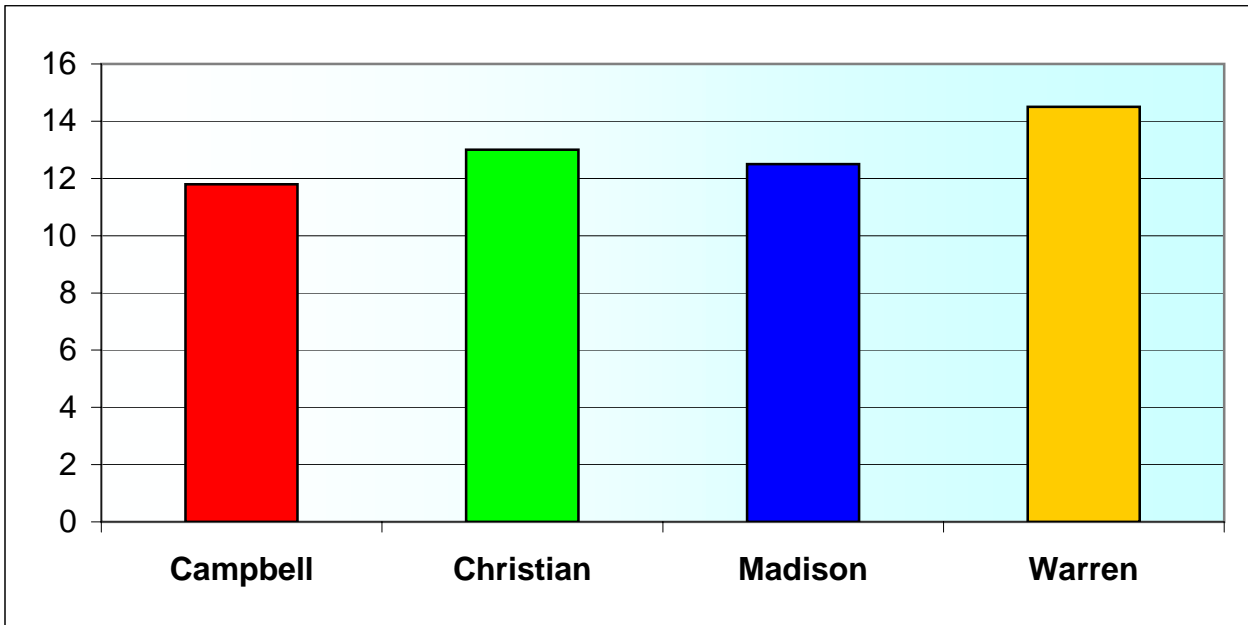


| Area | Percent |
|-------------|---------|
| U.S. | 11.9 |
| KY | 13.1 |
| Madison Co. | 12.5 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Kentucky showed a higher percentage of preterm births than did the nation for the same compared time periods. Madison County's percentage of preterm births was lower than Kentucky but 0.6 percent higher than the U.S.

**Madison and Peer County Comparison,
Percent of Preterm Births,
1999-2002 Average**

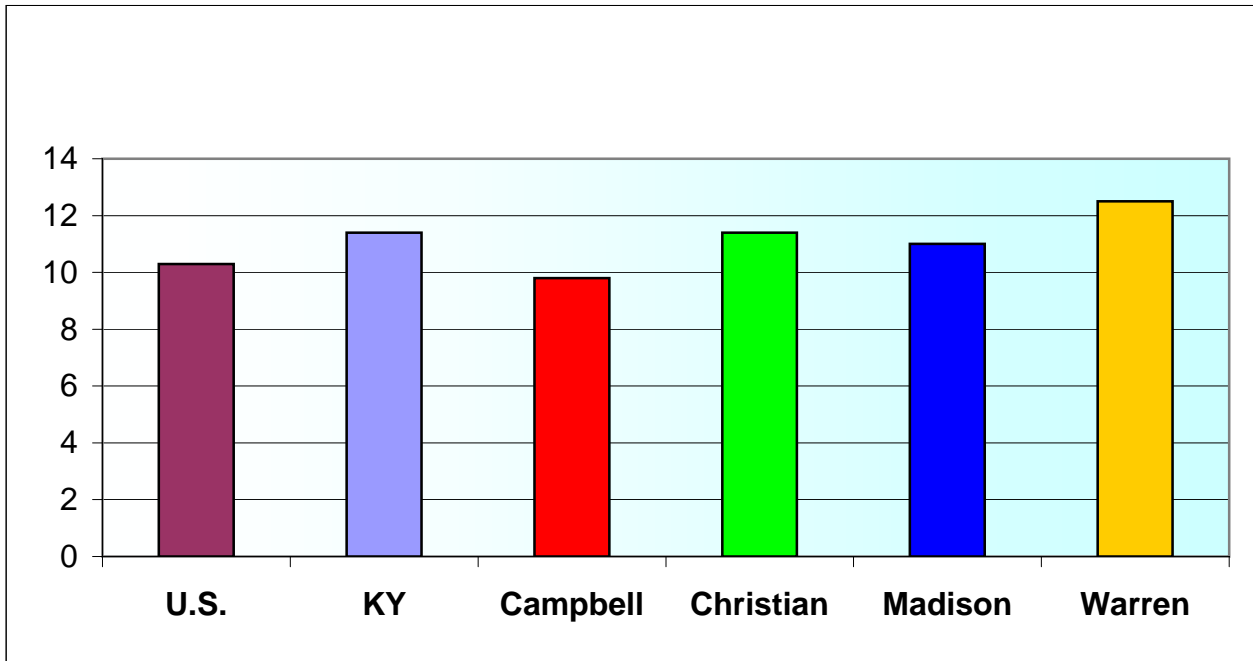


| Area | Percent |
|----------------|-------------|
| Campbell | 11.8 |
| Christian | 13 |
| Madison | 12.5 |
| Warren | 14.5 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: In the comparison to peer counties, Madison County was similar to Campbell and Christian Counties with the average number of preterm births for the same time period. Warren County experienced a 2.0% greater average of preterm births than Madison County.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Preterm Births among Single Births,
 1999 to 2002 Average**

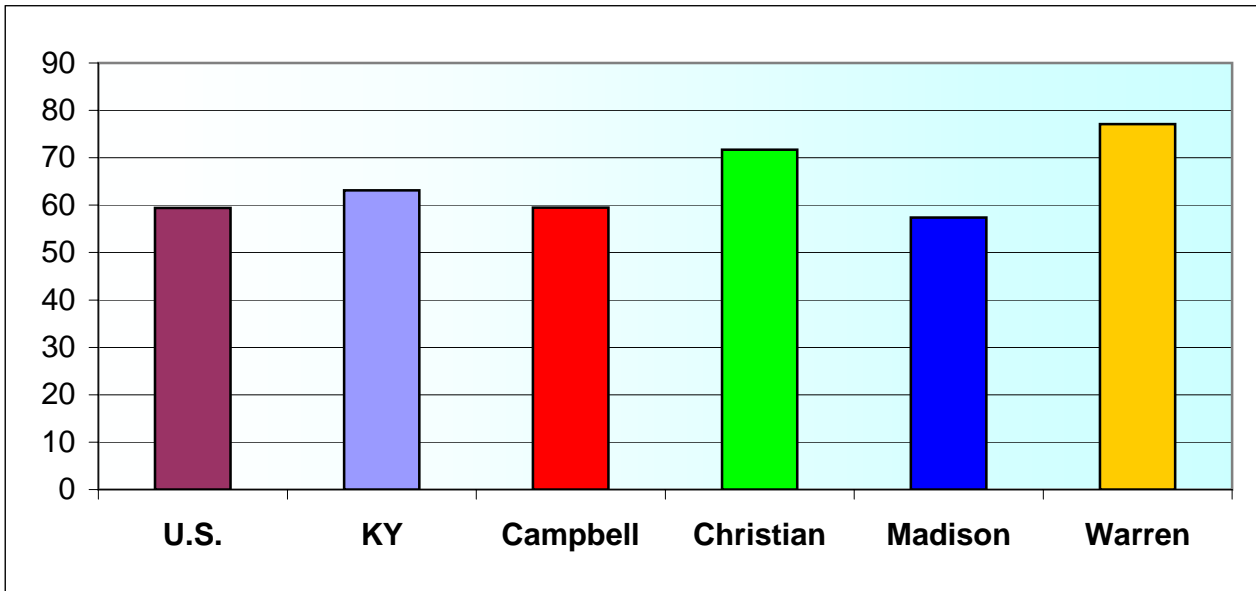


| Area | Percent |
|----------------|-----------|
| U.S. | 10.3 |
| KY | 11.4 |
| Campbell | 9.8 |
| Christian | 11.4 |
| Madison | 11 |
| Warren | 12.5 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Madison County experienced similar outcomes to the U.S, Kentucky and two peer counties for preterm births among single births. Peer county of Campbell had the lowest percent of preterm births among single births for the time period.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Preterm Births among Multiple Deliveries,*
 1999-2002 Average**



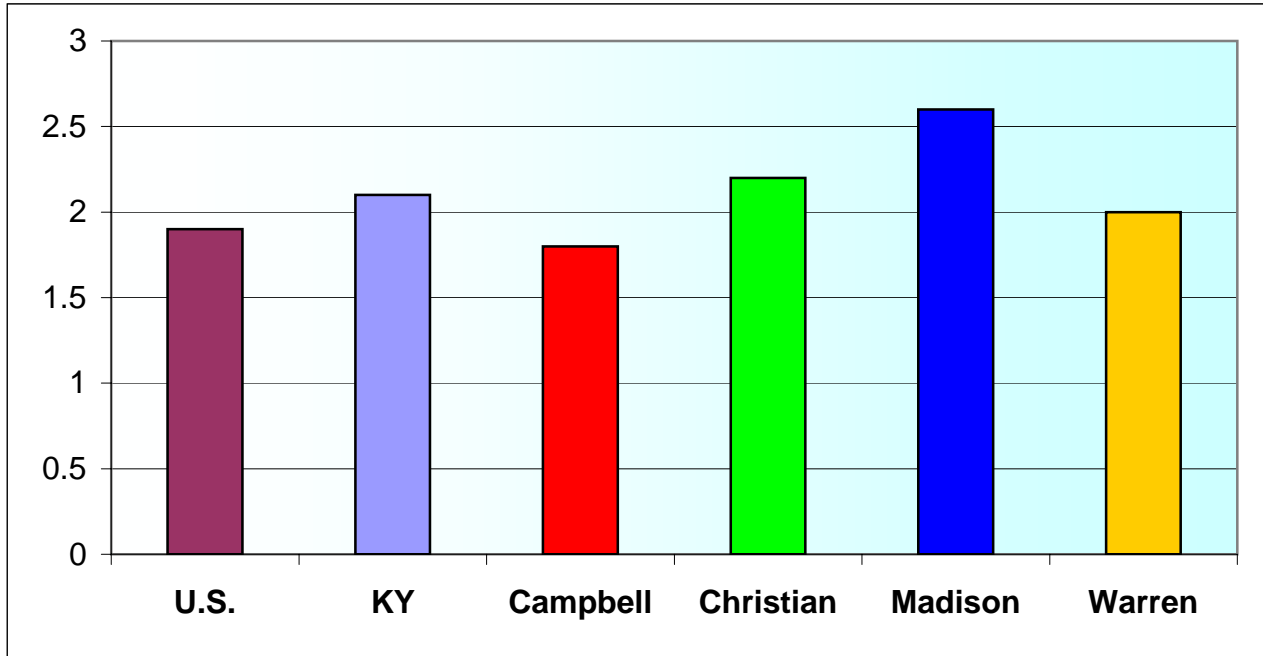
| Area | Percent |
|----------------|-------------|
| U.S. | 59.4 |
| KY | 63.1 |
| Campbell | 59.5 |
| Christian | 71.7 |
| Madison | 57.4 |
| Warren | 77.1 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Madison County, being the lowest, had a similar percentage of preterm births among multiple deliveries compared to the U.S., Kentucky and two peer counties. Warren County had a 19.7% higher than Madison County and was the highest in the comparison group in the same time period.

* Multiple Deliveries means twin, triplet or higher numbers.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Very Preterm Births,*
1999-2002 Average**



| Area | Percent |
|----------------|------------|
| U.S. | 1.9 |
| KY | 2.1 |
| Campbell | 1.8 |
| Christian | 2.2 |
| Madison | 2.6 |
| Warren | 2 |

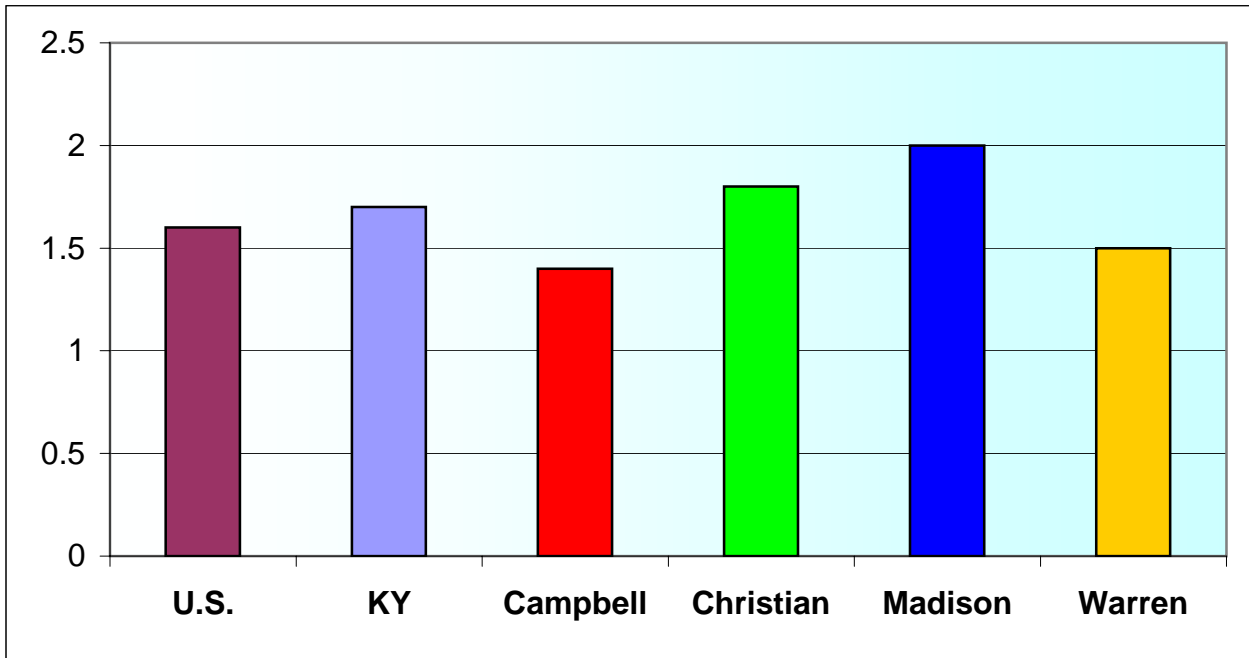
Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Madison County showed a higher percentage of very preterm births than all other comparison areas when averaged over the years from 1999-2002.

* Very Preterm is less than 32 completed weeks of the pregnancy.

Health People 2010 Goal: Decrease the percent of very preterm births to no more than 1.1% of live births.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Very Preterm Births Among Single Deliveries,
1999-2002 Average**

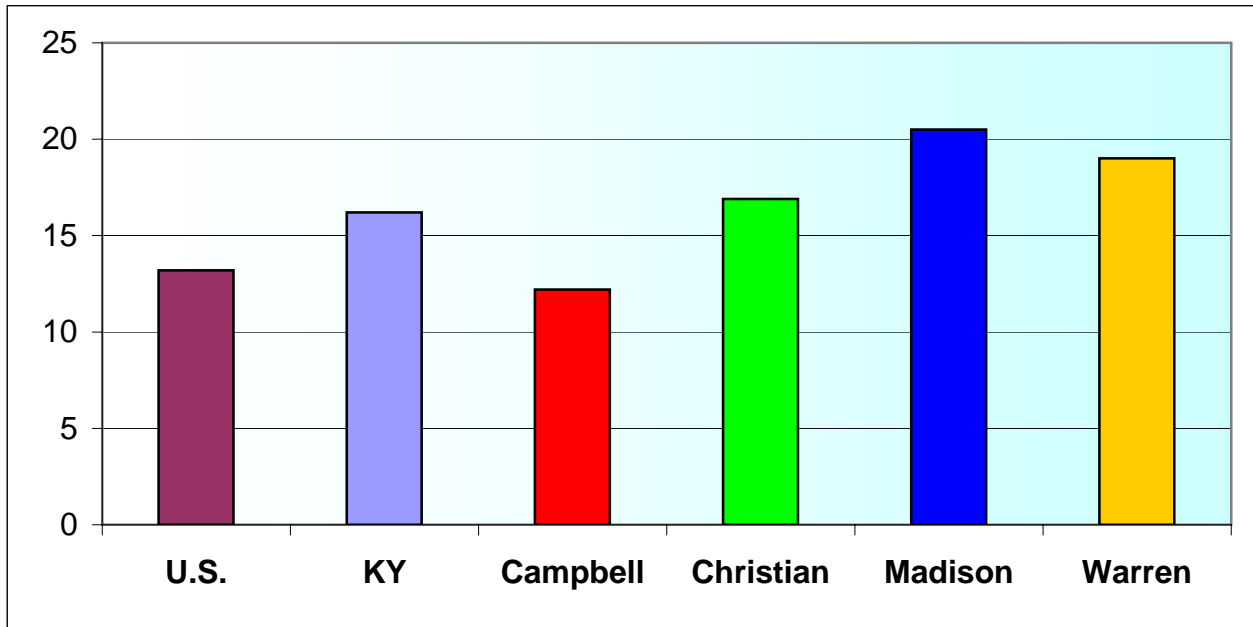


| Area | Percent |
|----------------|----------|
| U.S. | 1.6 |
| KY | 1.7 |
| Campbell | 1.4 |
| Christian | 1.8 |
| Madison | 2 |
| Warren | 1.5 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: The percent of preterm births among single deliveries (birth of one infant) was higher in Madison County than in all other comparison areas for the same time period.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Very Preterm Among Multiple Deliveries,
 1999-2002 Average**

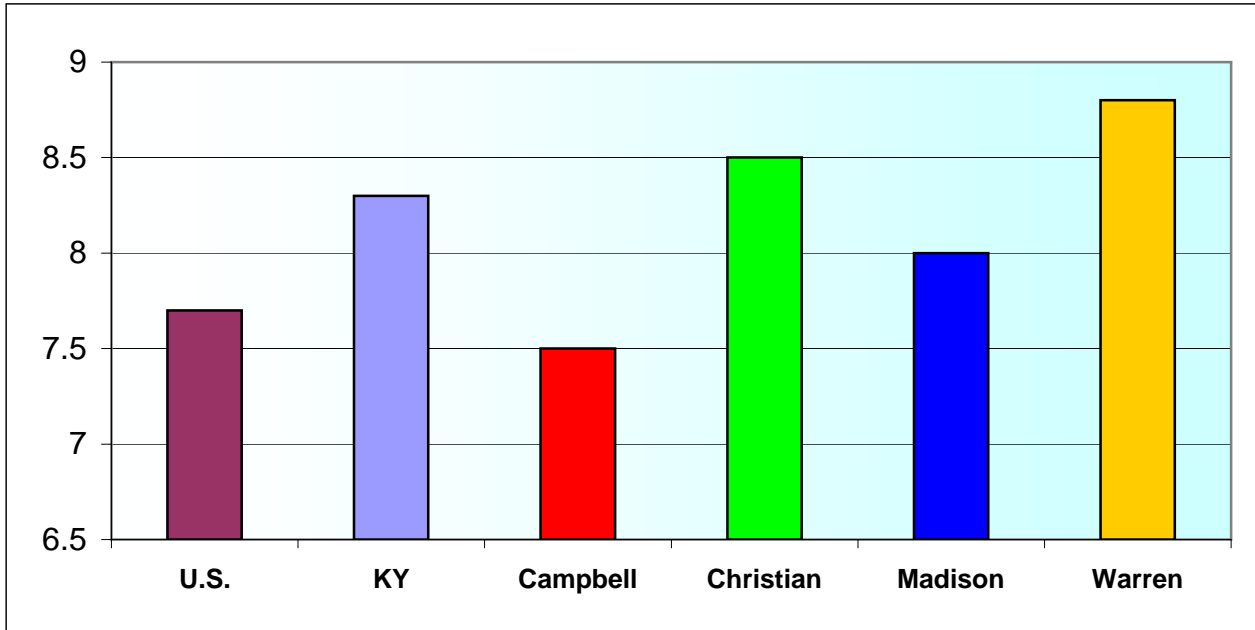


| Area | Percent |
|----------------|-------------|
| U.S. | 13.2 |
| KY | 16.2 |
| Campbell | 12.2 |
| Christian | 16.9 |
| Madison | 20.5 |
| Warren | 19 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: The percent of very preterm births among multiple deliveries (more than one infant born at delivery time) was higher in Madison County than in the other comparison areas for the same time period.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Low Birthweight Births,*
 1999-2002 Average**



| Area | Percent |
|----------------|----------|
| U.S. | 7.7 |
| KY | 8.3 |
| Campbell | 7.5 |
| Christian | 8.5 |
| Madison | 8 |
| Warren | 8.8 |

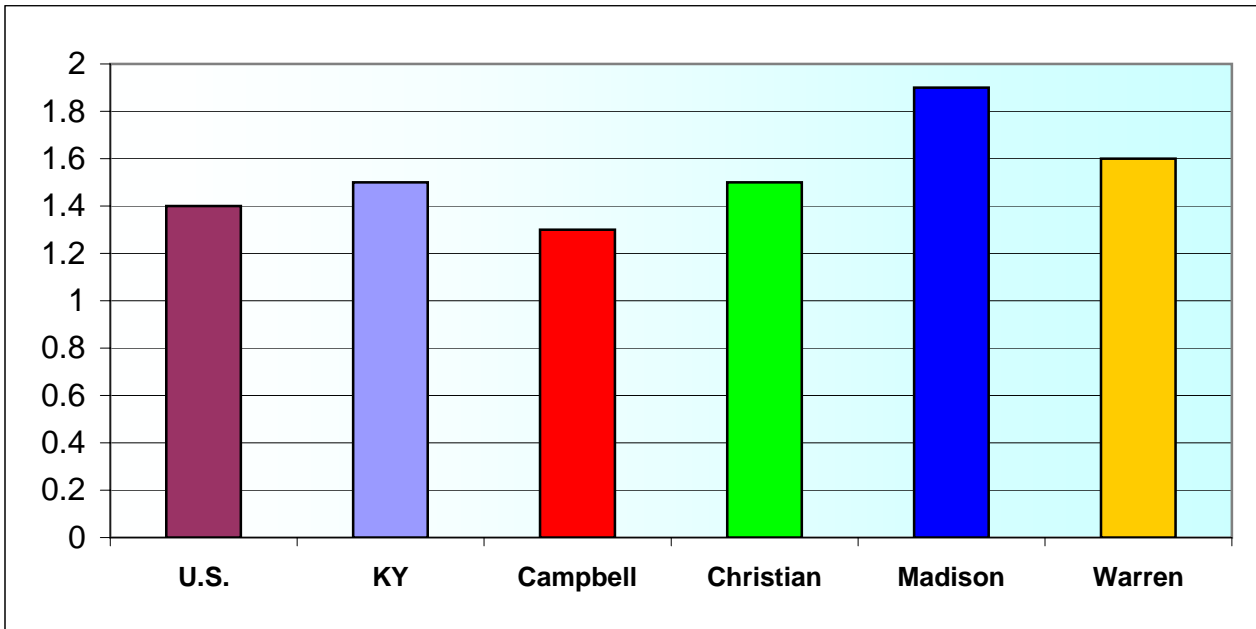
Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: The percentage of low birthweight infants for Madison County was higher than the national level, but lower than the Kentucky level for the same comparison time period. The peer county of Campbell showed the lowest percentage of all the comparison areas.

* Low Birthweight means infant weighs less than 5 1/2 pounds (2500 grams) at birth.

Healthy People 2010 Goal: Reduce to no more than 5% of live births.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Very Low Birthweight,*
 1999-2002 Average**



| Area | Percent |
|----------------|------------|
| U.S. | 1.4 |
| KY | 1.5 |
| Campbell | 1.3 |
| Christian | 1.5 |
| Madison | 1.9 |
| Warren | 1.6 |

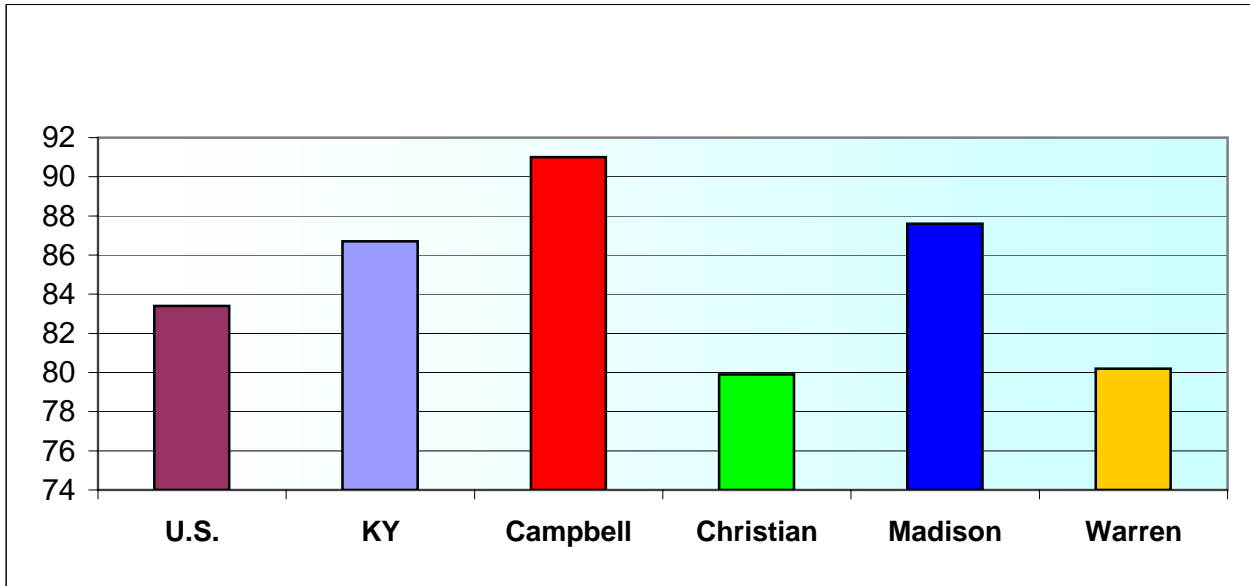
Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Madison County had the highest percentage of very low birthweight compared to all the other areas. Low and very low birthweights may result in slow developmental delays and health problems, such as respiratory, circulatory, vision, and hearing difficulties.

* Very Low Birthweight means infant weighs less than 3 1/2 pound (1500 grams) at delivery.

Healthy People 2010 Goal: Reduce to no more than 0.9% live births.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Live Births Receiving Early Prenatal Care,*
1999-2002 Average**



| Area | Percent |
|----------------|-------------|
| U.S. | 83.4 |
| KY | 86.7 |
| Campbell | 91 |
| Christian | 79.9 |
| Madison | 87.6 |
| Warren | 80.2 |

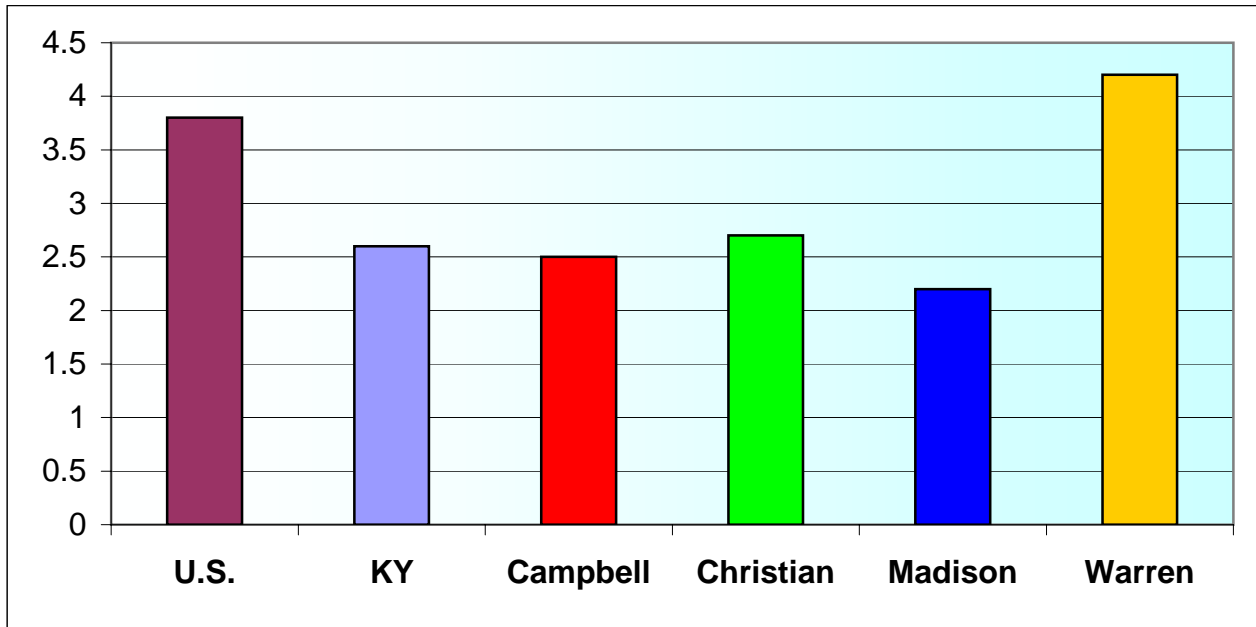
Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Peer county of Christian showed the largest numbers of live births receiving early medical care during the mother's pregnancy. Madison County ranked consistently with the state level among the comparison areas, both exceeding the national level.

* Early Prenatal Care is pregnancy-related care beginning in the first 1 to 3 months (first trimester.)

Healthy People 2010 Goal: Increase to at least 90% of live births receiving early prenatal care.

U.S., Kentucky, Madison and Peer Counties Comparison, Percent of Live Births Receiving Late/No Prenatal Care,* 1999-2002 Average



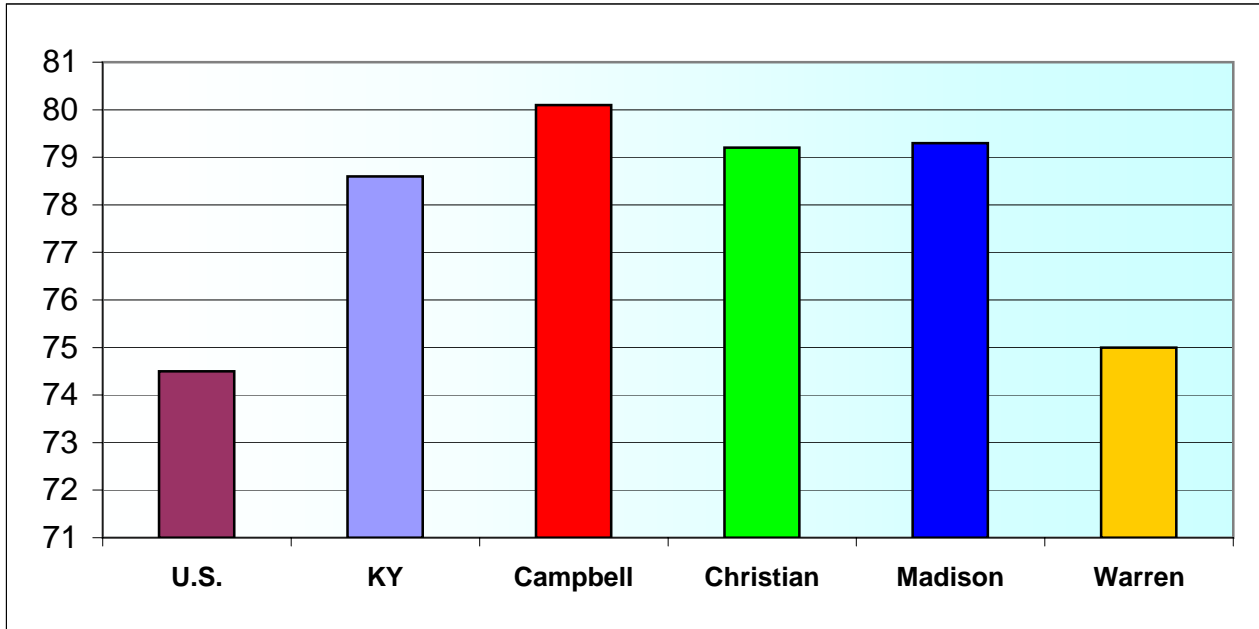
| Area | Percent |
|----------------|------------|
| U.S. | 3.8 |
| KY | 2.6 |
| Campbell | 2.5 |
| Christian | 2.7 |
| Madison | 2.2 |
| Warren | 4.2 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Fewer pregnant women in Madison County received late or no medical care during their pregnancy than in all other compared areas. Warren County's percentage was almost double that of Madison County's and exceeded all other compared areas.

* Late/No Prenatal Care is pregnancy -related care beginning in the 7-9 month (3rd trimester) or when no pregnancy-related care is received at all.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Percent of Live Births Receiving Adequate/Adequate+ Prenatal Care,*
1999-2002 Average**



| Area | Percent |
|----------------|-------------|
| U.S. | 74.5 |
| KY | 78.6 |
| Campbell | 80.1 |
| Christian | 79.2 |
| Madison | 79.3 |
| Warren | 75 |

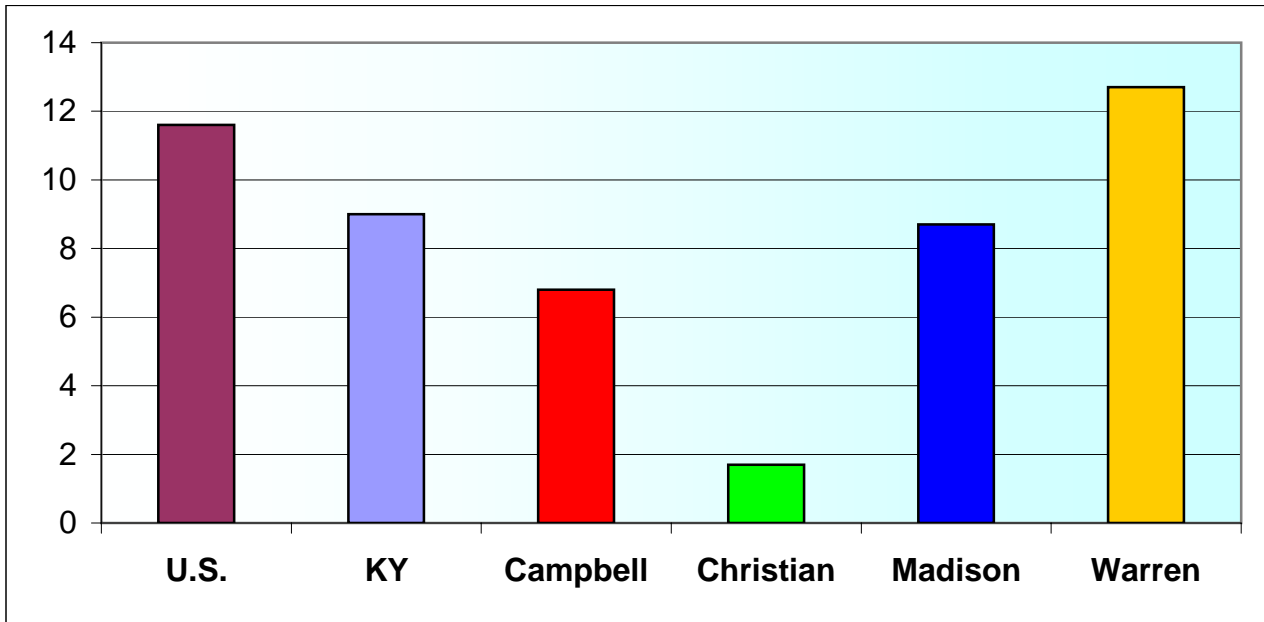
Source: <http://search.marchofdimes.com/peristats/countyttables.aspx?reg=21&dv=ct>

Analysis: Madison and peer counties, Campbell and Christian, had more live births born to mothers who had received adequate or more than adequate medical care during their pregnancy than the other compared areas for the same time period. The levels of these three counties were fairly similar to the state's level but somewhat higher than the national level.

* Adequacy is measured by combining information about the timing of prenatal care, the number of visits, and the stage of the pregnancy.

Healthy People 2010 Goal: Increase to at least 90% of live births that receive Adequate or greater care during the pregnancy.

**U.S., Kentucky, Madison and Peer County Comparison,
Percent of Pregnant Women Receiving Inadequate Care,
1999-2002 Average**

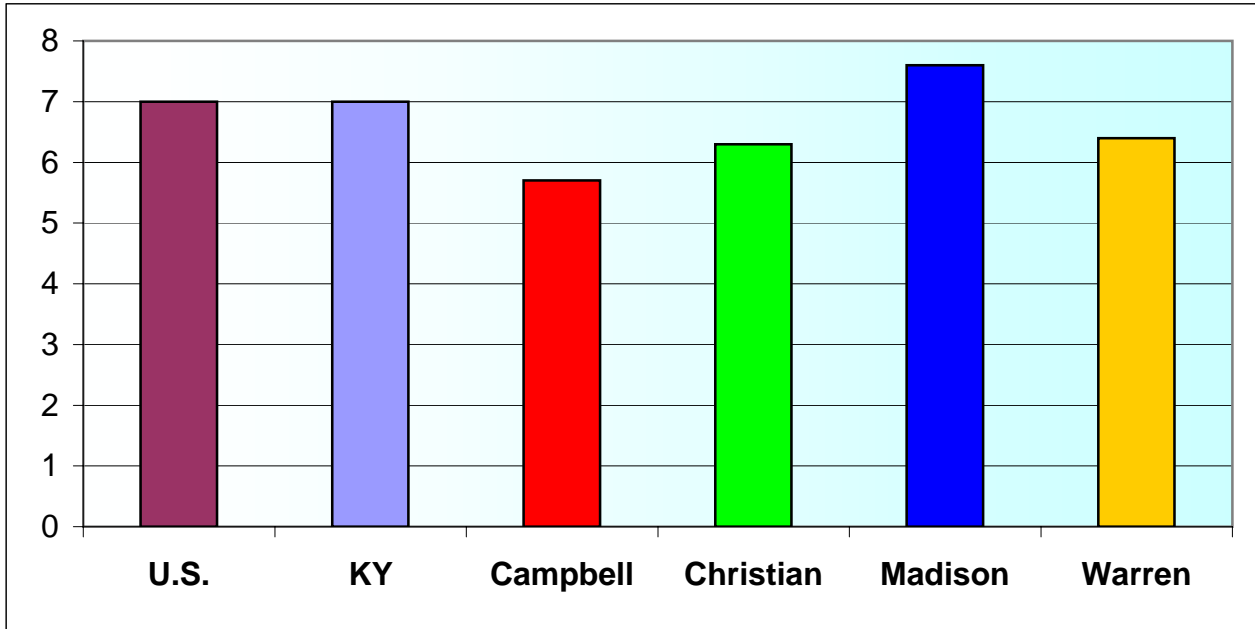


| Area | Percent |
|----------------|------------|
| U.S. | 11.6 |
| KY | 9 |
| Campbell | 6.8 |
| Christian | 1.7 |
| Madison | 8.7 |
| Warren | 12.7 |

Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Madison County had almost 9% of women who received inadequate care during their pregnancy. This was similar to the state level and lower than the national level. Inadequate care during pregnancy may jeopardize the health of the mother and may result health complications and/or death of the infant.

**U.S., Kentucky, Madison and Peer Counties Comparison,
Infant Mortality* Rates per 1,000 Live Births,
 1998-2001 Average**



| Area | Rate |
|----------------|------------|
| U.S. | 7 |
| KY | 7 |
| Campbell | 5.7 |
| Christian | 6.3 |
| Madison | 7.6 |
| Warren | 6.4 |

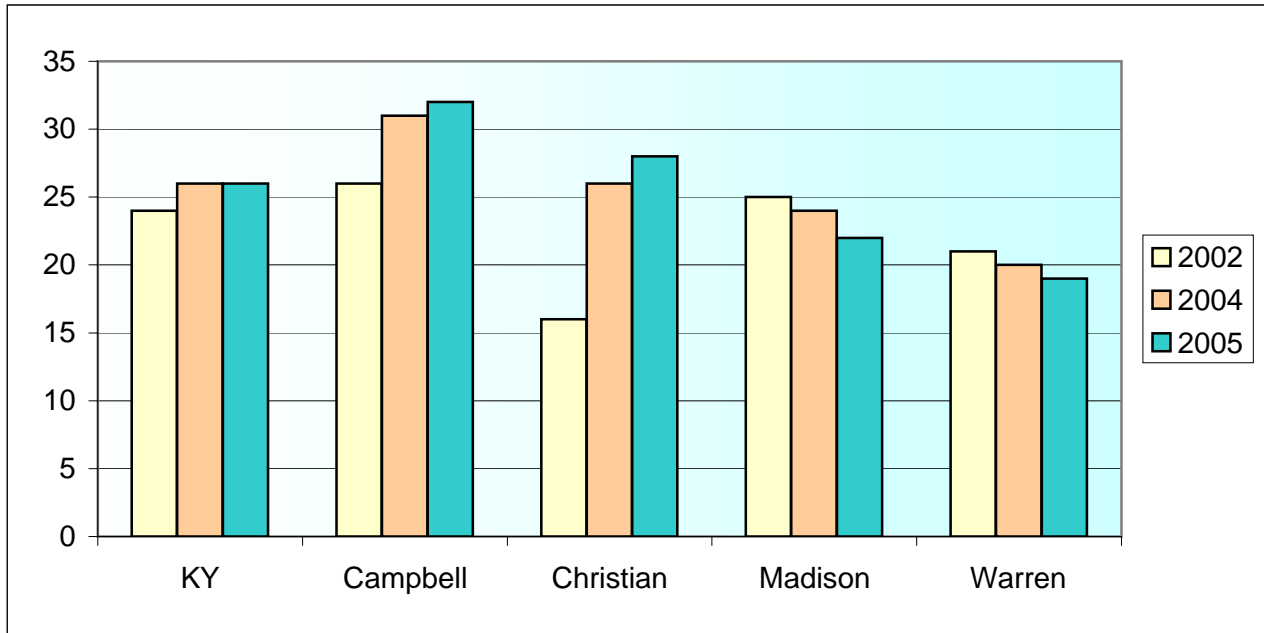
Source: <http://search.marchofdimes.com/peristats/countytables.aspx?reg=21&dv=ct>

Analysis: Of the compared areas, Madison County had the highest rate of infant deaths for the comparison time period.

* Deaths to infants less than one year of age.

Healthy People Goal: Reduce to no more than 4.5 infant deaths per 1,000 live births.

**U.S., Kentucky, Madison and Peer Counties,
Percent of Births to Women Who Reported Smoking During Pregnancy,
2002-2005 Comparison**

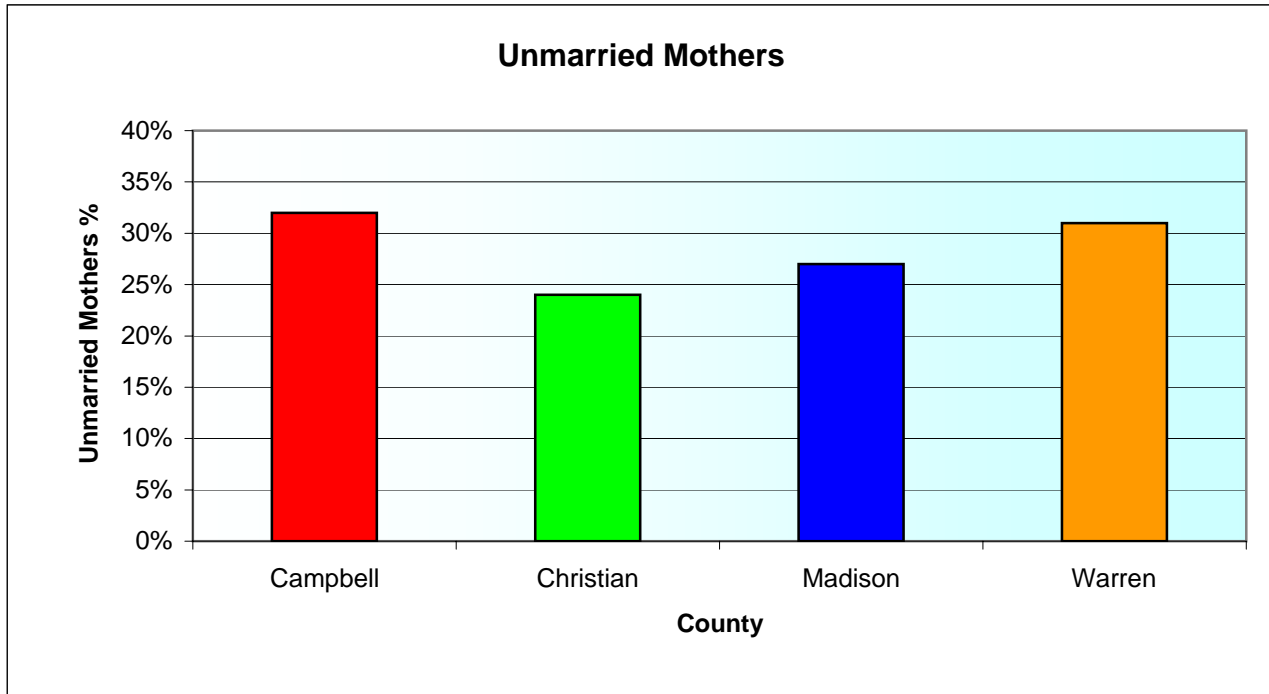


| Area | 2002 | 2004 | 2005 |
|----------------|-----------|------|------|
| KY | 24 | 26 | 26 |
| Campbell | 26 | 31 | 32 |
| Christian | 16 | 26 | 28 |
| Madison | 25 | 24 | 22 |
| Warren | 21 | 20 | 19 |

Sources: www.kyyouth.org/Publications/KidsCount2004/KC-2004.pdf; www.kyyouth.org/Publications/KIDS_Count_2006/Health.pdf

Analysis: Kentucky, Madison and peer counties all had higher percentage of pregnant women smoking than at the national level which was 11% in 2003. In 2002, Campbell and Madison Counties had the highest percentage, while Christian County has the lowest. Madison County has shown a slow gradual decline from 2002-2005 and in 2005 was lower than the 26% of Kentucky women who smoked during pregnancy. Smoking during pregnancy has shown to be a contributing factor resulting in low birth weights, preterm delivery, sudden infant death syndrome, SIDS, and other infant problems.

**Madison and Peer Counties Comparison,
Percentage of Unmarried Mothers, 2000**

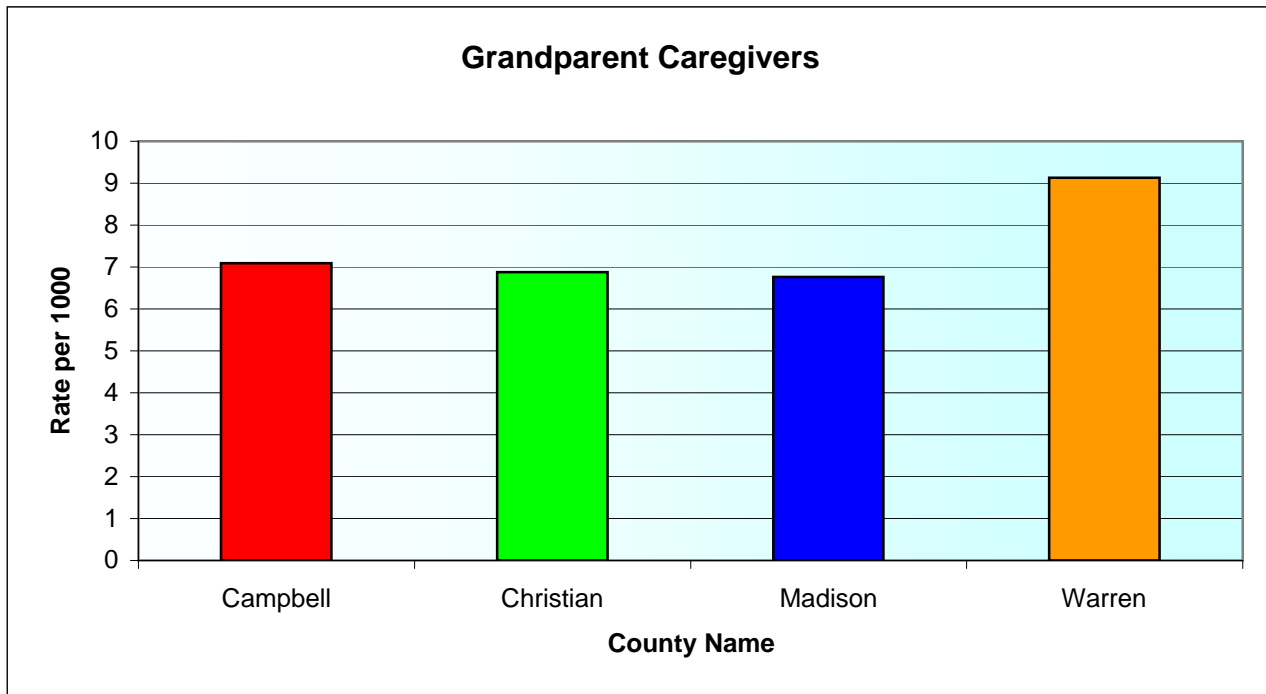


| Area | Unmarried mothers |
|----------------|-------------------|
| Campbell | 32% |
| Christian | 24% |
| Madison | 27% |
| Warren | 31% |

Source: <http://sig.reachoflouisville.com>

Analysis: According to statistics from the Kentucky State Data Center, peer counties of Campbell and Warren had higher percentages of unmarried mothers than Madison County for the reporting year 2000. Reasons for unmarried women giving birth vary due to the woman's choice to remain unmarried, divorce, widowhood, too young and lack of parental consent, lack of commitment by partner to commit to marriage. Regardless of the reason, single parenthood may result in burdens for the woman and child, among which can be financial, social, and lack of available childcare or respite from the constant demands of being the primary parent in a child's life.

**Madison and Peer Counties Comparison,
Grandparents Who Serve as Caregivers for Grandchildren, 2000**

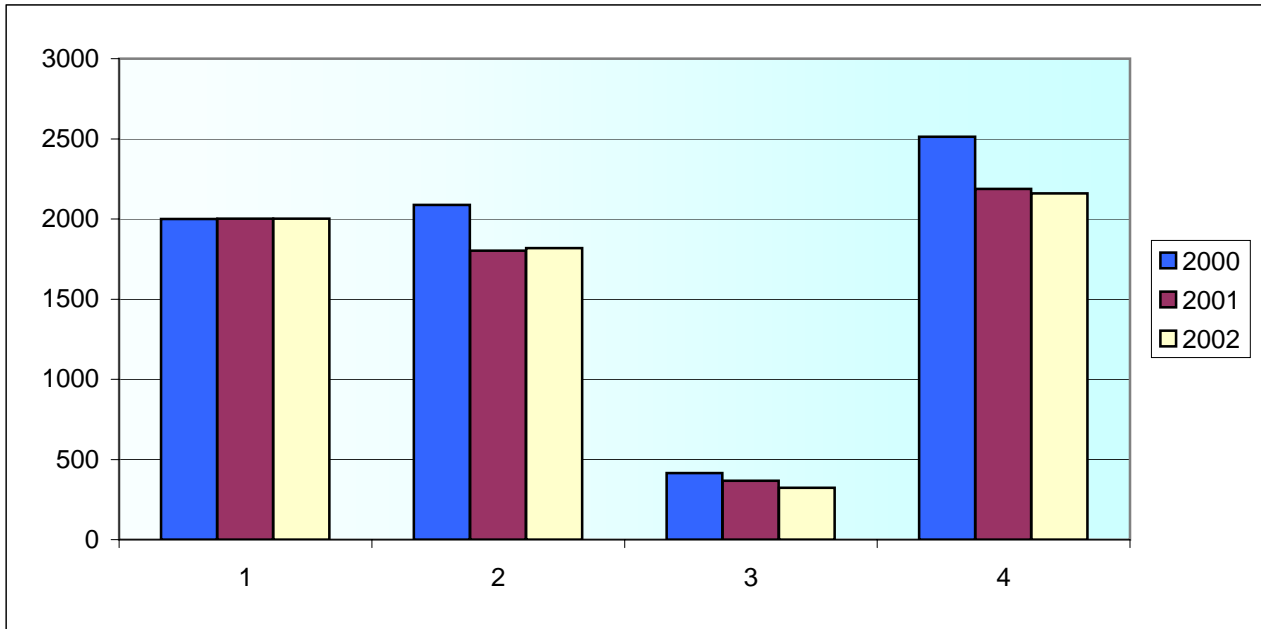


| Area | Rate per 1000 |
|----------------|---------------|
| Campbell | 7.09 |
| Christian | 6.88 |
| Madison | 6.76 |
| Warren | 9.13 |

Source: <http://sig.reachoflouisville.com>

Analysis: Madison County had the lowest rate of grandparents serving as caregivers to grandchildren as compared to the peer counties. Reasons for grandparents becoming primary caregivers for grandchildren are most often due to death of one or more parents, parents out of home due to desertion of children, parents incarcerated due to crimes, or births to very young or young parents. Financial resources, personal time and energy availability, and lack of respite services from children care responsibilities may place burdens on the family due to middle age or older adult rearing very young children. In addition to caring for grandchildren, many adults are in primary caregiver roles with aging parents, thus giving new meaning to the "sandwich generation."

**Kentucky, Number of Births to Females,
Ages 10-17, 2000-2002**



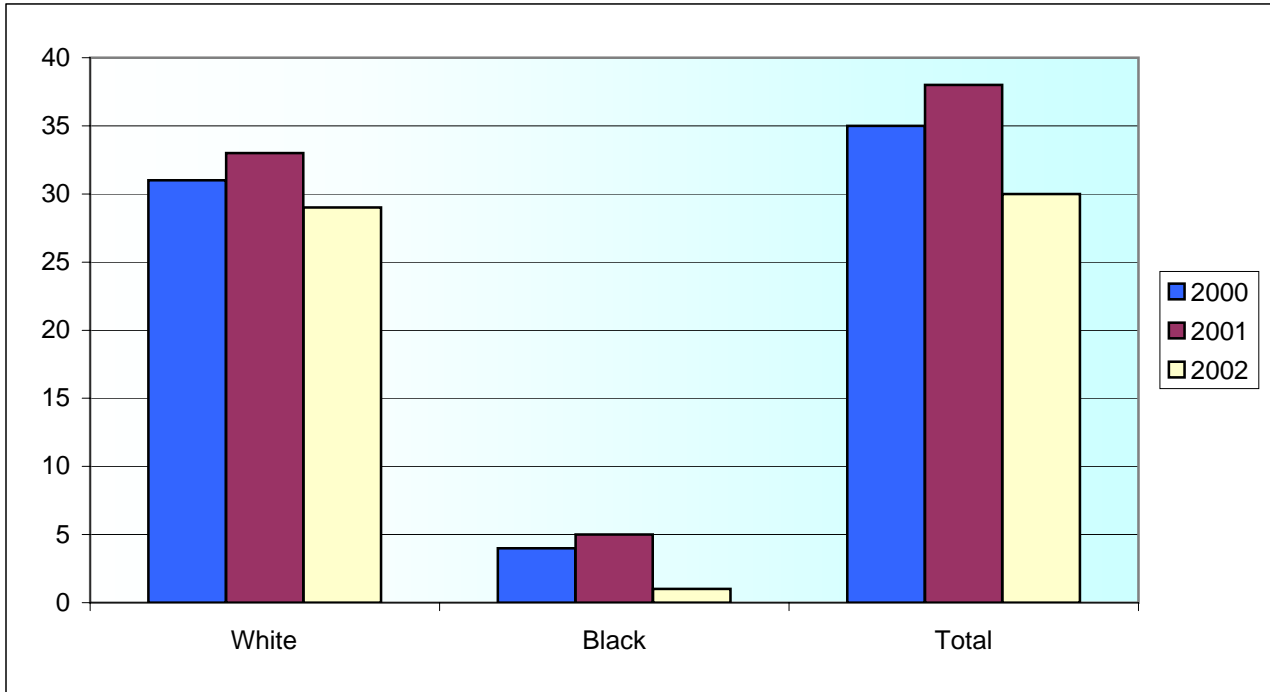
| Year | White | Black | Total |
|------|-------|-------|-------|
| 2000 | 2088 | 416 | 2513 |
| 2001 | 1803 | 367 | 2187 |
| 2002 | 1819 | 323 | 2159 |

Source: <http://chfs.ky.gov/NR/rdonlyres/90686019-2769-466A-81F7-CA927A2427F1/0-2002CountyHealthProfilesCounties.pdf>;
http://chfs.ky.gov/NR/rdonlyres/B4E7ED8B-BE55-4247-8DF2-A30C00537491-/2001_Health_Social_Indicators_Counties.pdf;
http://chfs.ky.gov/NR/rdonlyres/628488F-2801-4797-9B11-BBBEF4926AHE/0/CntyHlthProf2000-Hlth_Soccounties_.pdf

Analysis: The total number of births to females, ages 10-17, declined in the state from 2000-2002. While this positive trend was consistent for both whites and blacks, births to teens place a burden on individuals, families, and the community. In 2000, 130 births were to girls younger than 15 years of age, according to the Guttmacher Institute.¹ Births to the very young place physical, mental, financial and social stress on the girls and their families. Immaturity of the young may interfere with establishing parental bonding with their infants and thus creating additional family burden. The majority of parenting responsibilities are often placed with the adults in the family. All too frequently the fathers of the infants born to the very young are also psychosocially limited in their abilities to form parenting bonds as well. Thus, the biological father may become an absentee one or have diminished contact with the child. This scenerio often holds true for the older teens as well.

¹<http://guttmacher.org/pubs/2006/09/12/USTPstats.pdf>

**Madison County,
Number of Births to Females, Ages 10-17,
2000-2002**



| <u>Year</u> | <u>White</u> | <u>Black</u> | <u>Total</u> |
|-------------|--------------|--------------|--------------|
| 2000 | 31 | 4 | 35 |
| 2001 | 33 | 5 | 38 |
| 2002 | 29 | 1 | 30 |

Source: <http://chfs.ky.gov/NR/rdonlyres/90686019-2769-466A-81F7-CA927A2427F1/0-2002CountyHealthProfilesCounties.pdf>;
http://chfs.ky.gov/NR/rdonlyres/B4E7ED8B-BE55-4247-8DF2-A30C00537491/0/2001_Health_Social_Indicators_Counties.pdf ;
http://chfs.ky.gov/NR/rdonlyres/628488F-2801-4797-9B11-BBBEF4926AHE/0/CntyHlthProf2000-Hlth_Soccounties_.pdf

Analysis: For the three year comparison years, the trend for Madison County was fairly similar to the state, exception being 2001 with a light increase from 2000. Postponing Sexual Involvement (PSI), an abstinence based education program, provided in the Madison County and Berea Independent School Systems and at Model and St. Mark's Schools, is thought to have been a crucial influencing factor in this downward trend. Teen leaders from the high schools participate in an intensive summer week long training program that prepares them to teach the PSI content in the middle school classes during the school year. Under the direction of a health educator from the Madison County Health Department or teachers from the high schools, teen leaders provide the PSI content at either the 7th or 8th grade level.

Death, Illnesses, & Injury

Definition of Category: Health status in a community is measured in terms of mortality (rates of death within a population) and morbidity (rates of the incidence and prevalence of disease). Mortality may be represented by crude rates of age-adjusted rates; by degrees of premature death (Years of Protective Life Lost or YPLL); and by cause (disease-cancer and non-cancer or injury-intentional, unintentional). Morbidity may be reported by age adjusted incidence of cancer and chronic disease.

Madison County

Strengths

Deaths as a result of motor vehicles declined from 2000 to 2003
No deaths due to melanoma of the skin and cancer of cervix/uteri were reported in 2000
Gonorrhea declined from 2003 to 2005
Confirmed cases of influenza has been low from 2002 to 2006

Weaknesses

Heart disease is leading cause of death, followed by cancer and then stroke
County had a larger number of population per health care provider than peer counties in 2000
Highest age groups for suicide were in the 20-24 y.o. and 65 y.o. +
Rate of suicide increased from 2000 to 2003
Unintentional injuries were the greatest among the <1 age group and in the 65 y.o. +
Approximately 17% of deaths was due to motor vehicle in 2000
Deaths due trachea, bronchus & lung were the leading cause among cancers
Diabetes as a secondary diagnosis occurred in approximately 15% of inpatient admissions in 2000-2001
Asthma as a primary diagnosis for inpatient hospital admissions occurred highest in the 25-44 y.o. age group; 0-4 y.o. age group comprised the second highest in 2003
Chlamydia increased from 2003 to 2005

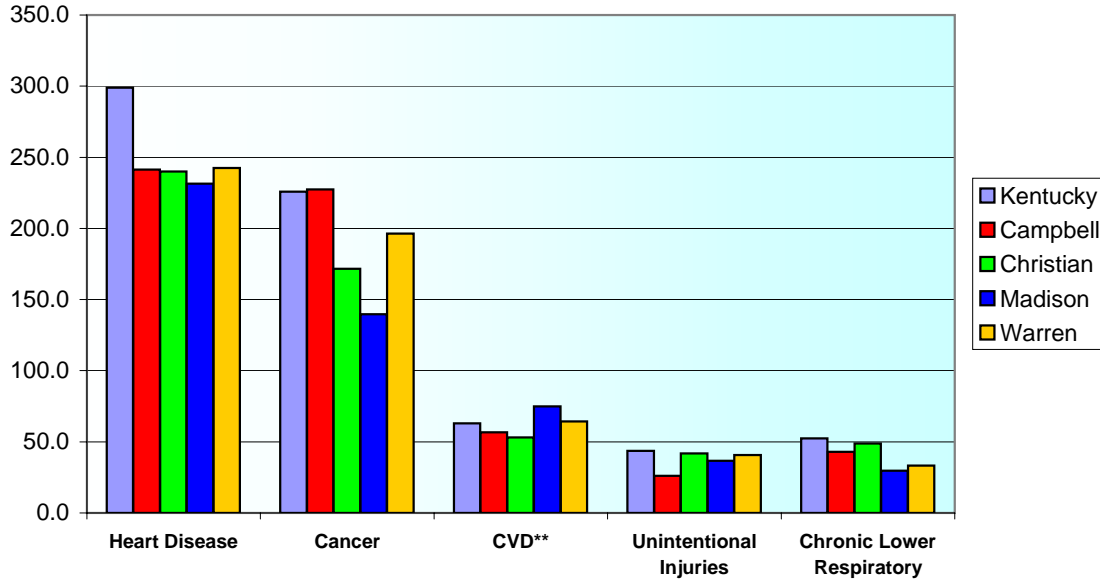
Opportunities

Increasing education needed for chronic disease prevention, i.e., heart, stroke, cancer
Continuing to increase attention on strategies to reduce unintentional injuries
Increasing education on diabetes self management care to prevent complications
Increasing education of suicide risks and early interventions
Increasing education on Sexually Transmitted Infection risks and resources for treatment

Threats

Segments of population continue to engage in risk taking behaviors
Flu pandemic with large number of population unprotected by flu vaccine
Complications of chronic diseases occur as population ages
Inadequate number and type of primary care providers to meet health needs of aging population

**Kentucky and Madison County and Peer County Comparison,
Leading Causes of Death, 2000**



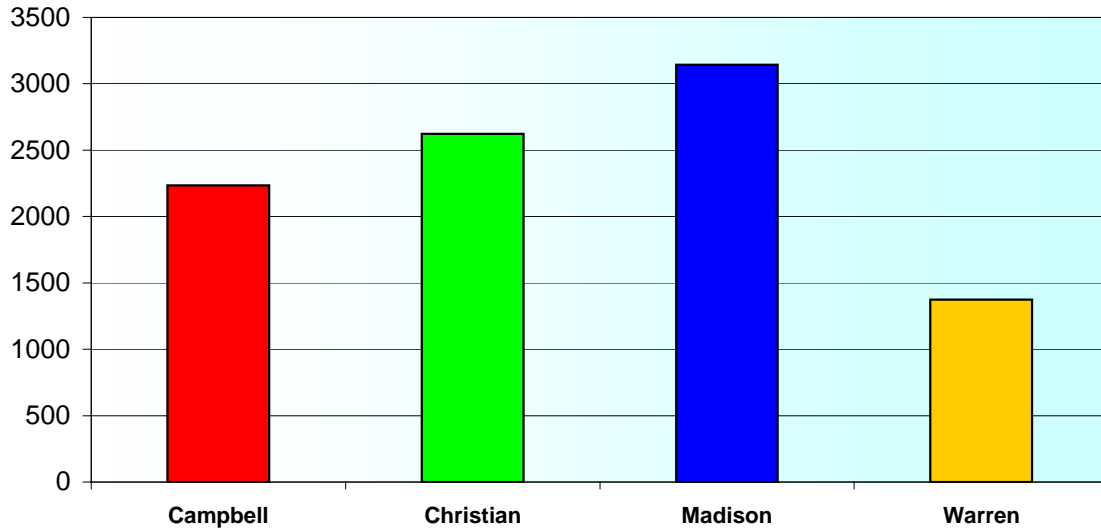
| Cause | Kentucky | Madison | Campbell | Christian | Warren |
|---------------------------|----------|---------|----------|-----------|--------|
| Heart Disease | 299.0 | 231.4 | 241.4 | 240.1 | 242.4 |
| Cancer | 225.8 | 139.7 | 227.5 | 171.7 | 196.3 |
| CVD** | 63.0 | 74.8 | 56.6 | 53.0 | 64.4 |
| Unintentional Injuries | 43.7 | 36.7 | 26.0 | 41.9 | 40.8 |
| Chronic Lower Respiratory | 52.4 | 29.6 | 43.0 | 48.8 | 33.3 |

Source: <http://chfs.ky.gov/NR/rdonlyres/5F82199F-3580-4DF9-9D9A-FE03F03C16B6/0/2000CntyprofcountiesLCD.pdf>

Analysis: According to 2000 statistics, Madison County's number one leading cause of death was due to heart disease (CVD.) CVD was a higher cause of death for residents of Madison County than for the state and peer counties. Cancer, as a reported cause of death, was lower for Madison Countians than the state and peer counties. Madison County deaths due to Chronic Lower Respiratory Disease was the lowest of all of the top five reported causes.

** CVD is the abbreviation for Cerebrovascular Disease (stroke)

**Madison and Peer County Comparison,
Population per Service Providers, 2000**

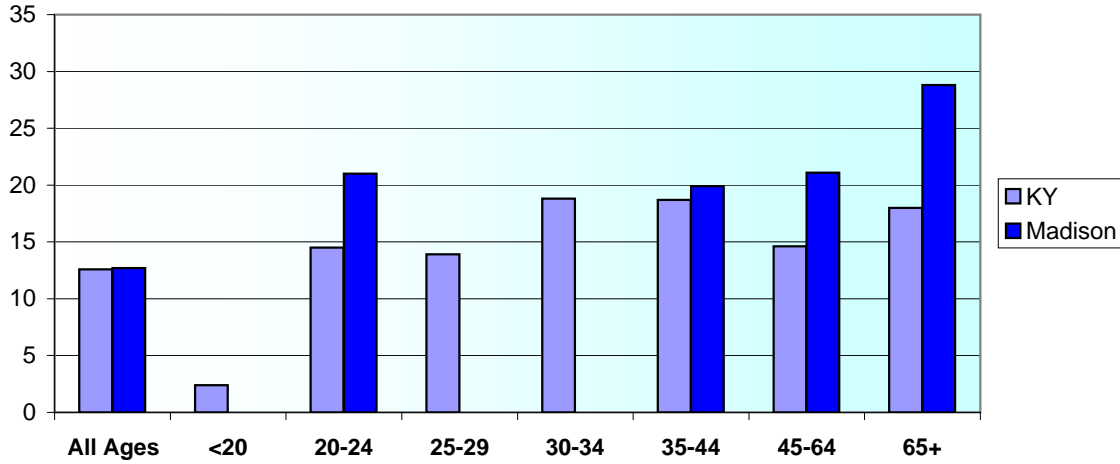


| Area | Population/Provider |
|-----------|---------------------|
| Campbell | 2235 |
| Christian | 2623 |
| Madison | 3143 |
| Warren | 1375 |

Source: <http://sig.reachoflouisville.com>

Analysis: In the peer county comparison, Madison County had the largest number of persons per health care service provider in 2000. This may have resulted in delays for individuals seeking medical care.

**Kentucky and Madison County Comparison,
Percent of Resident Deaths from Intentional Self-Harm (Suicide) by Age Group, 2000**

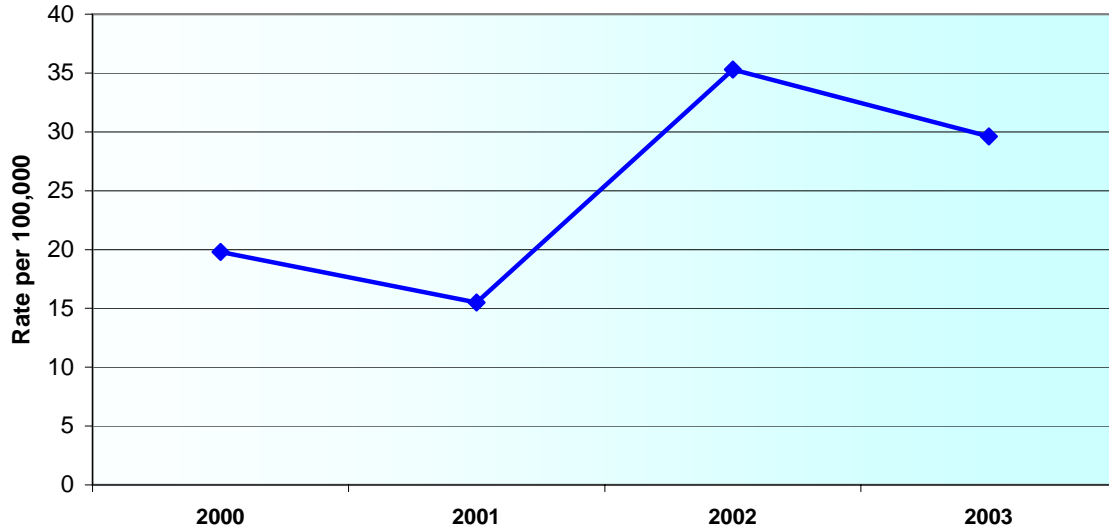


| Area | All Ages | <20 | 20-24 | 25-29 | 30-34 | 35-44 | 45-64 | 65+ |
|---------|----------|-----|-------|-------|-------|-------|-------|------|
| KY | 12.6 | 2.4 | 14.5 | 13.9 | 18.8 | 18.7 | 14.6 | 18 |
| Madison | 12.7 | 0 | 21 | 0 | 0 | 19.9 | 21.1 | 28.8 |

Source: <http://chfs.ky.gov/NR/rdonlyres/9CBB9977-4BF4-497B-906C-5C9DC040F86F/0/DeathTables2P.pdf>

Analysis: In comparison to the state of Kentucky, Madison County had higher percentages of suicide for young adults, age 20-24, and for adults ranging in ages from 35-64. The highest rates occurred in older adults, ages 65 and older.

Madison County, Attempted Suicide Rates, 2000-2003 Comparison

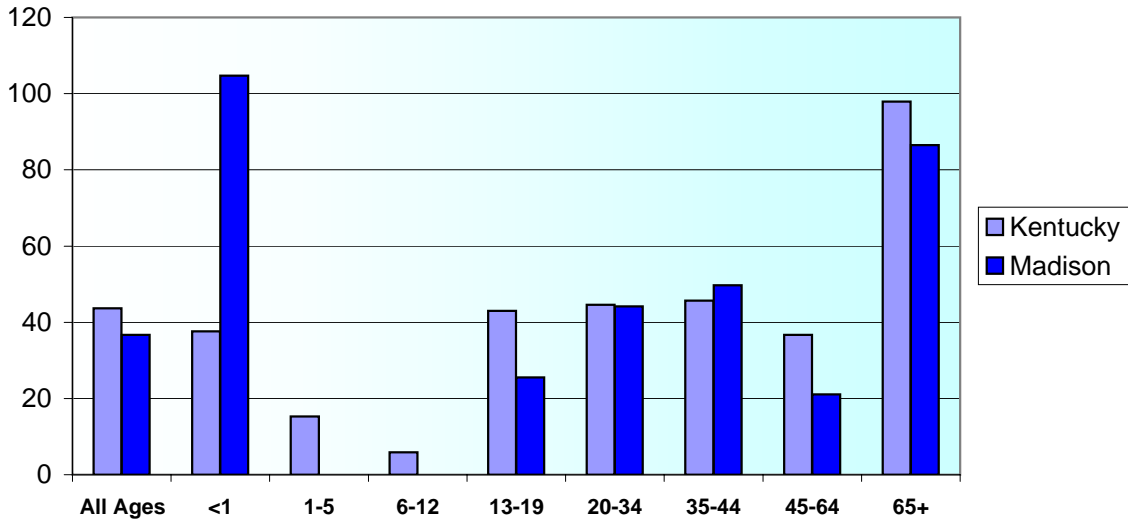


| Area | 2000 | 2001 | 2002 | 2003 |
|---------|------|------|------|------|
| Madison | 19.8 | 15.5 | 35.3 | 29.6 |

Source: http://chfs.ky.gov/NR/rdonlyres/08F979D3-3D79-48BE-B2A9-4C55DC7EC2C5/0/HIDU_July_1_2003_June_30_2004.pdf

Analysis: In the years from 2000 -2003, the highest rise in percentages of suicides occurred from 2001 to 2002, an increase of approximately 20%.

**Kentucky and Madison County Comparison,
Percent of Resident Deaths from Unintentional Injuries by Age Group, 2000**

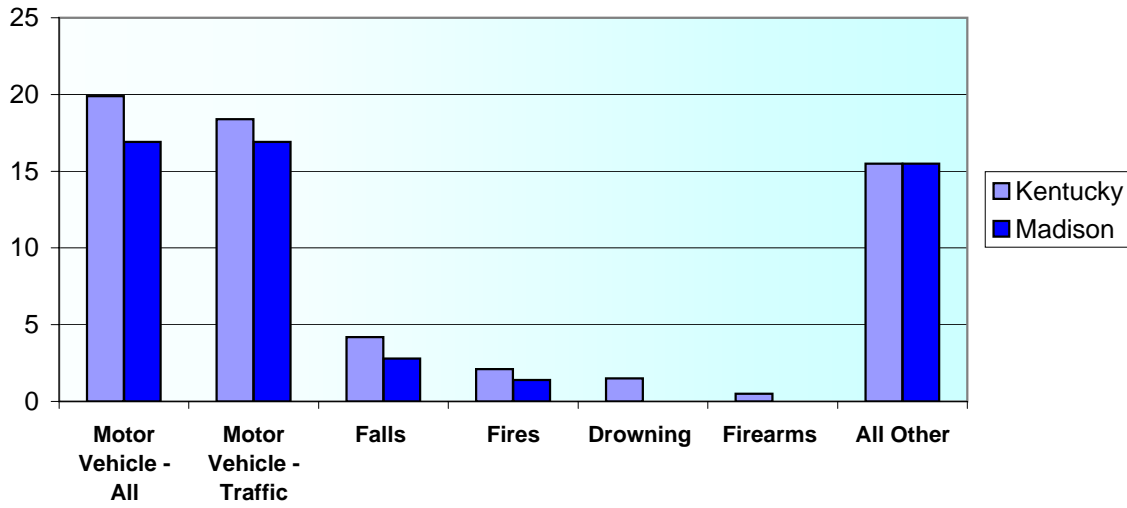


| Area | All Ages | <1 | 1-5 | 6-12 | 13-19 | 20-34 | 35-44 | 45-64 | 65+ |
|----------|----------|-------|------|------|-------|-------|-------|-------|------|
| Kentucky | 43.7 | 37.6 | 15.3 | 5.9 | 43 | 44.6 | 45.7 | 36.7 | 97.9 |
| Madison | 36.7 | 104.7 | 0 | 0 | 25.5 | 44.2 | 49.7 | 21.1 | 86.5 |

Source: <http://chfs.ky.gov/NR/rdonlyres/93C5CD1F-BCEF-4BB3-BEF6-A13D01B1737E/0/DeathTables2Q.pdf>

Analysis: Madison County residents, in the less than 1 year of age category and adults 65 years of age and older, experienced the higher rate of deaths due unintentional injuries. Children, under the age of 1 year, died from unintentional injuries at a significantly higher rate in the county compared to the state.

Kentucky and Madison County Comparison, Percent of Resident Death from Unintentional Injuries by Type of Injury, 2000

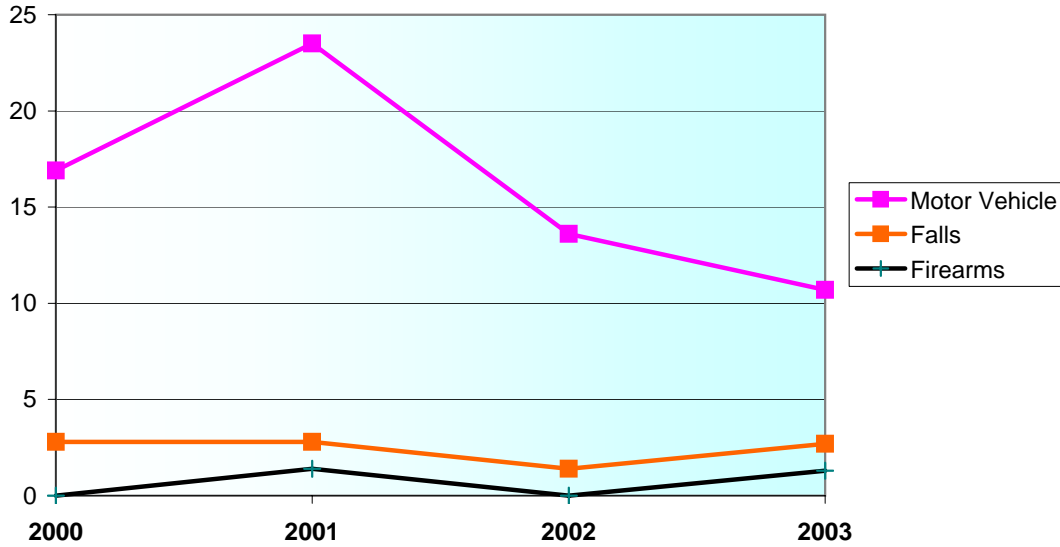


| Area | Motor Vehicle - All | Motor Vehicle - Traffic | Falls | Fires | Drowning | Firearms | All Other |
|----------|---------------------|-------------------------|-------|-------|----------|----------|-----------|
| Kentucky | 19.9 | 18.4 | 4.2 | 2.1 | 1.5 | 0.5 | 15.5 |
| Madison | 16.9 | 16.9 | 2.8 | 1.4 | 0 | 0 | 15.5 |

Source: <http://chfs.ky.gov/NR/rdonlyres/BC8BD87B-3ABC-4E0B-85C8-C441D21DFB48/0/DeathTables2R.pdf>

Analysis: Motor vehicle accidents was the number one cause of state and county deaths from unintentional injuries. Lack of appropriate car seat restrains, driving at high rates of speed for road conditions, and driving under the influence were all contributing factors to the vehicular accidents resulting in deaths.

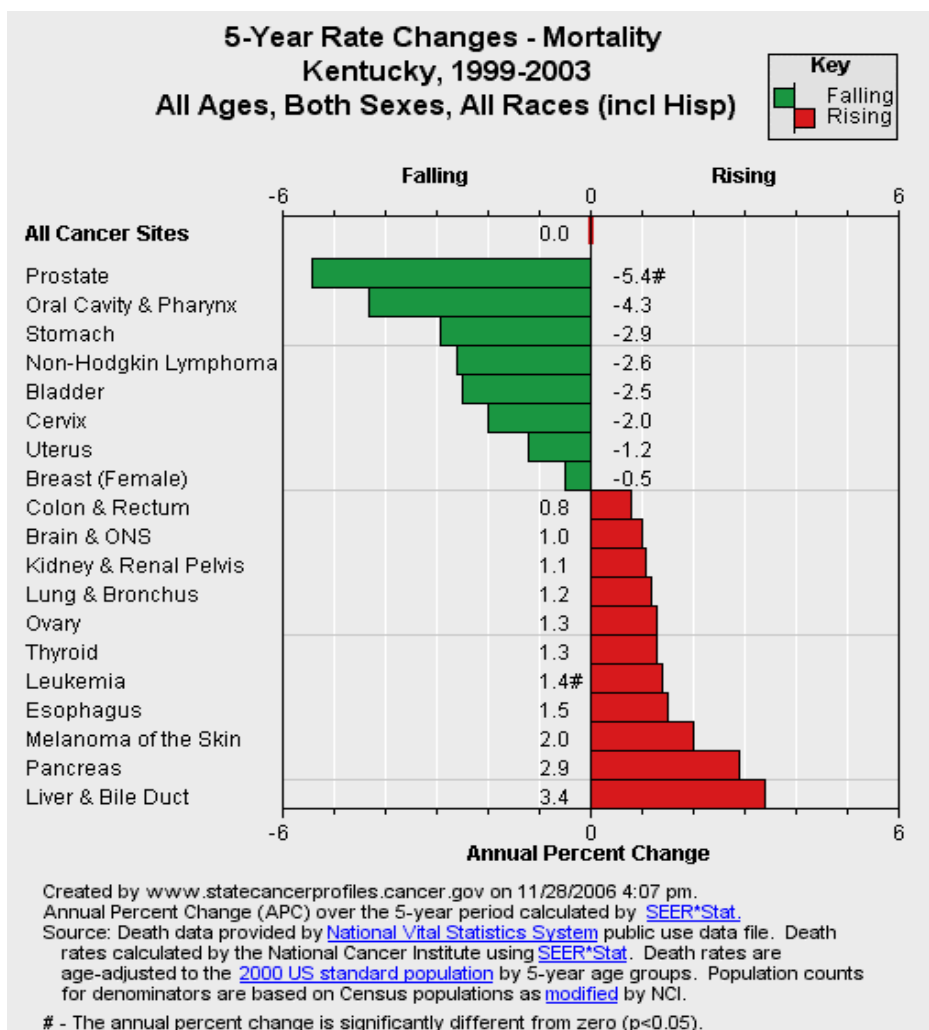
Madison County, Percent of Resident Deaths from Unintentional Injuries, 2001-2003



| Year | Motor | Falls | Firearms |
|------|-------|-------|----------|
| 2000 | 16.9 | 2.8 | 0 |
| 2001 | 23.5 | 2.8 | 1.4 |
| 2002 | 13.6 | 1.4 | 0 |
| 2003 | 10.7 | 2.7 | 1.3 |

Source: <http://chfs.ky.gov/NR/rdonlyres/BC8BD87B-3ABC-4E0B-85C8-C441D21DFB48/0/DeathTables2R.pdf>;
http://chfs.ky.gov/NR/rdonlyres/549447B7-D6CF-46F3-8822-BDABCB905ECC/0/2001_Deaths_Table2R.pdf;
http://chfs.ky.gov/NR/rdonlyres/14F45E65-7EC7-4100-BB02-B39D8A8BC21A/0/2002_Deaths_Table2R.pdf;
http://chfs.ky.gov/NR/rdonlyres/66BB9F2-F43C-4C21-B&D#-283E3oC8D5C2/2003_Deaths-Table_2R.pdf

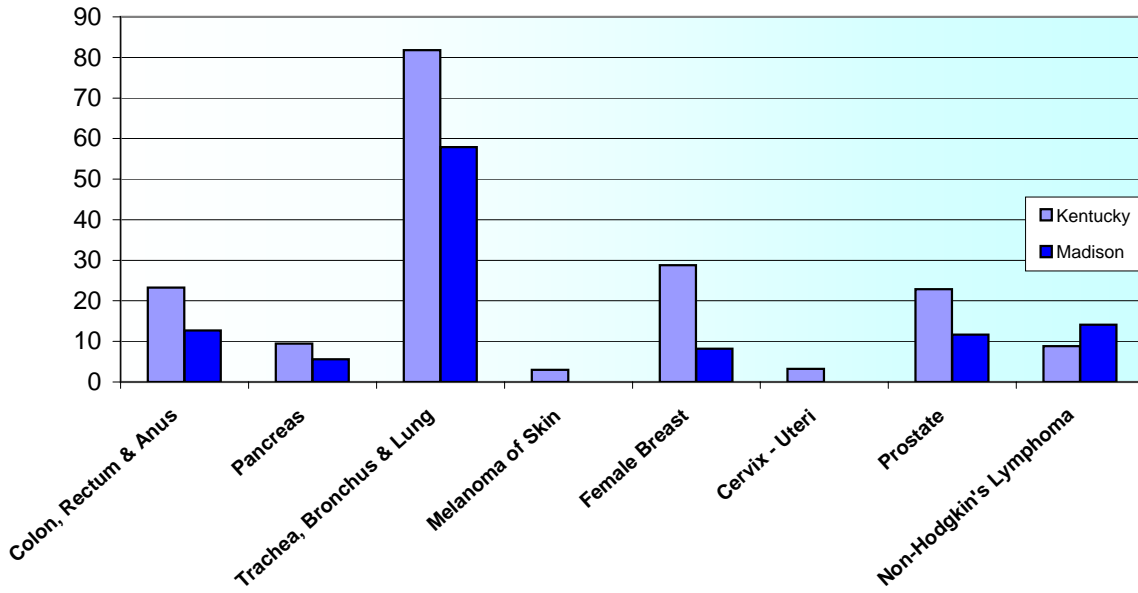
Analysis: A decline in resident deaths from motor vehicle accidents was seen from 2000 through 2003 for Madison County residents. Local community education on promoting appropriate car seat restraints and enforcement of safe driving practices was emphasized during the time period.



Source: <http://www.statecancerprofiles.cancer.gov/recenttrend/recenttrend.php?0&21&0&9599&001&999&00&0&0&0&2#graph>

Analysis: Declines were seen in the state for certain cancers., i.e., prostate, oral cavity and pharynx, stomach, bladder, and cervix, most notably. Liver and bile duct, pancreas and melanoma of the skin were the leading cancers showing increase in the state's population from 1999-2003.

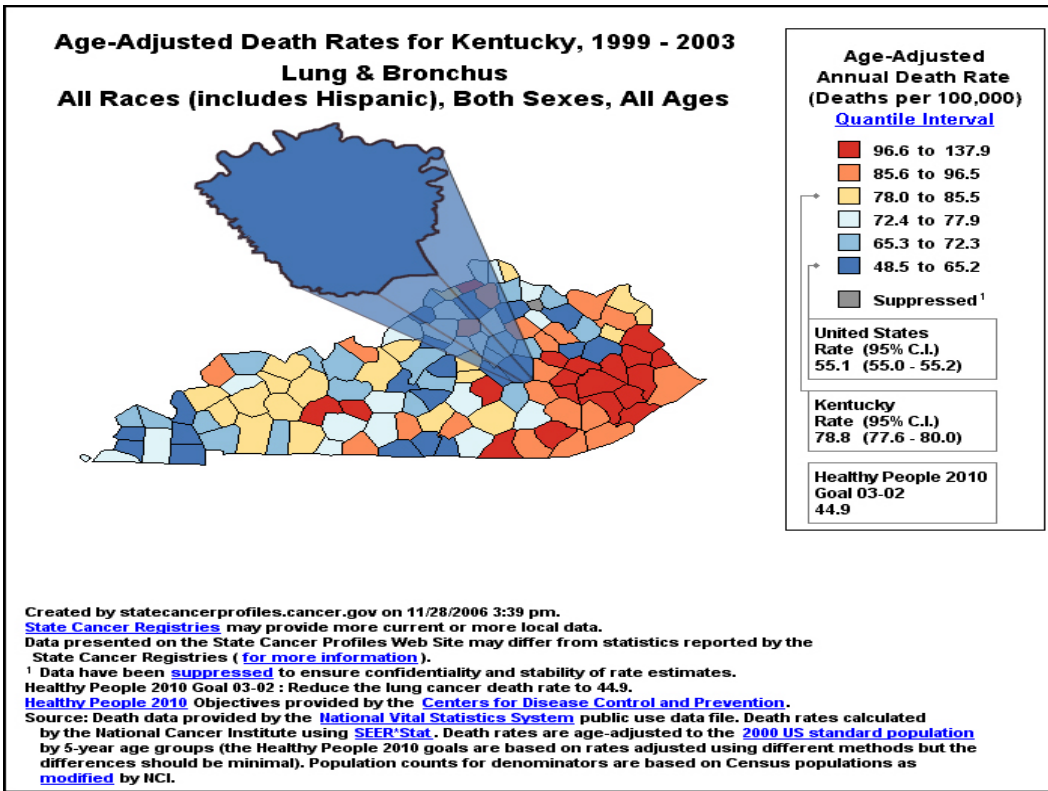
Kentucky and Madison County Comparison, Percent of Resident Deaths from Selected Cancers (Neoplasms), 2000



| Area | Colon, Rectum & Anus | Pancreas | Trachea, Bronchus & Lung | Melanoma of Skin | Female Breast | Cervix - Uteri | Prostate | Non-Hodgkin's Lymphoma |
|----------|----------------------|----------|--------------------------|------------------|---------------|----------------|----------|------------------------|
| Kentucky | 23.3 | 9.5 | 81.8 | 3 | 28.8 | 3.2 | 22.9 | 8.8 |
| Madison | 12.7 | 5.6 | 57.9 | 0 | 8.2 | 0 | 11.7 | 14.1 |

Source: <http://chfs.ky.gov/NR/rdonlyres/FC7DA2C5-D3FB-4560-95FF-F9D8821AD6B8/0/DeathTables2S.pdf>

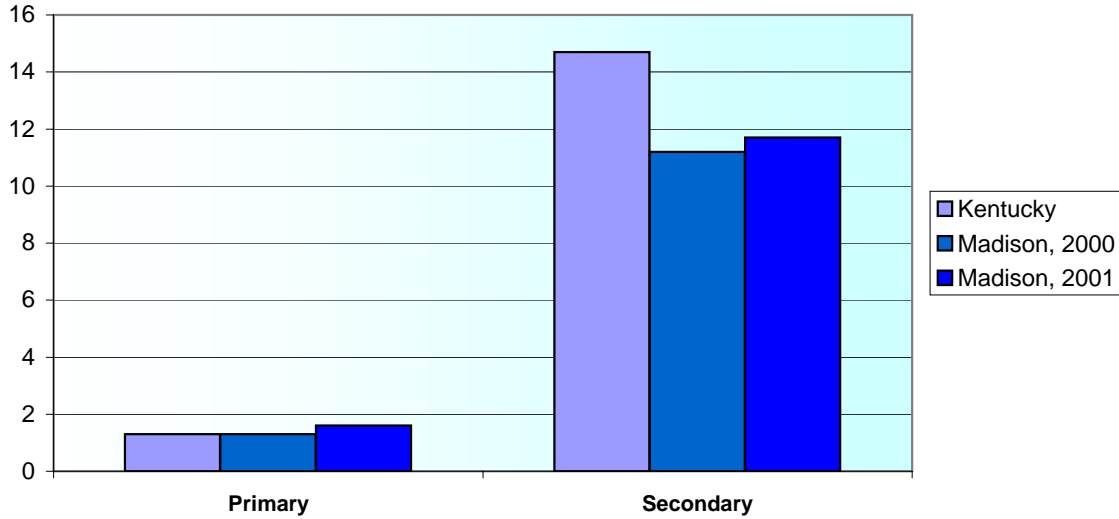
Analysis: In 2000, cancer of the trachea, bronchus and lung was the highest among the state and county populations. High smoking rates among the adult population at both levels was believed to be the major contributing factor.



Source: <http://www.statecancerprofiles.cancer.gov/map/map.withimage.php?21&001&047&00&0&2&9903&1&6&0#map>

Analysis: From 1999 to 2003, Kentucky showed a higher age-adjusted death rate due to lung cancer than the nation. Madison County's rate was lower than the Kentucky rate but much higher than the national rate. Madison County and Kentucky both have a high percentage of adult smokers in the population, thus contributing to the higher rates.

Kentucky and Madison County, Primary and Secondary Diabetes Diagnosis, Hospital Inpatient Admissions, 2000 & 2001 Comparison



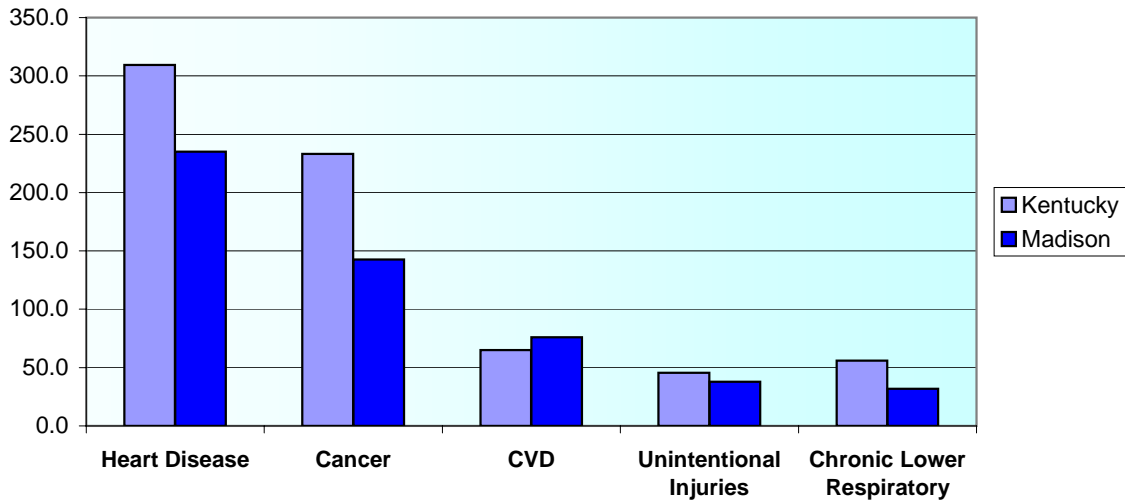
| Area | Primary | Secondary |
|----------|---------|-----------|
| Madison, | 1.3 | 11.2 |
| Madison, | 1.6 | 11.7 |
| Kentucky | 1.3 | 14.7 |

Source: http://chfs.ky.gov/NR/rdonlyres/C8077C84-D27D-4D6B-B3EF-75FCD2D06EAF/0/HIDU-July1_2002thruJune_30_2003.pdf

Analysis: Hospital admissions of Madison County residents was significantly higher for diabetes as a secondary diagnosis than as a primary diagnosis in the 2001-2002 comparison years. Health conditions such as heart and circulatory problems, skin wounds, and infections often result in being the primary reasons for hospitalization among individuals who have diabetes.

It is estimated that 8.5% of Kentucky's adult population has been diagnosed with diabetes and estimated 29% of Kentucky's adults have undiagnosed diabetes. In 2003, the state ranked 7th in the nation for the highest percentage of adults diagnosed with the disease. In the Bluegrass Area Development District (BGADD), of which Madison County is a part, and estimated 8.0-9.0 % of adults had been diagnosed in 2003. It is believed that approximately 40% of Kentuckians have pre-diabetes. The state ranks #1 in the nation for lack of physical activity and 5th in the nation for obesity, both of which are major contributing factors for developing the disease and having a major impact on maintenance of the disease process.

**Kentucky and Madison County Comparison,
Leading Causes of Death for White Population, 2000**

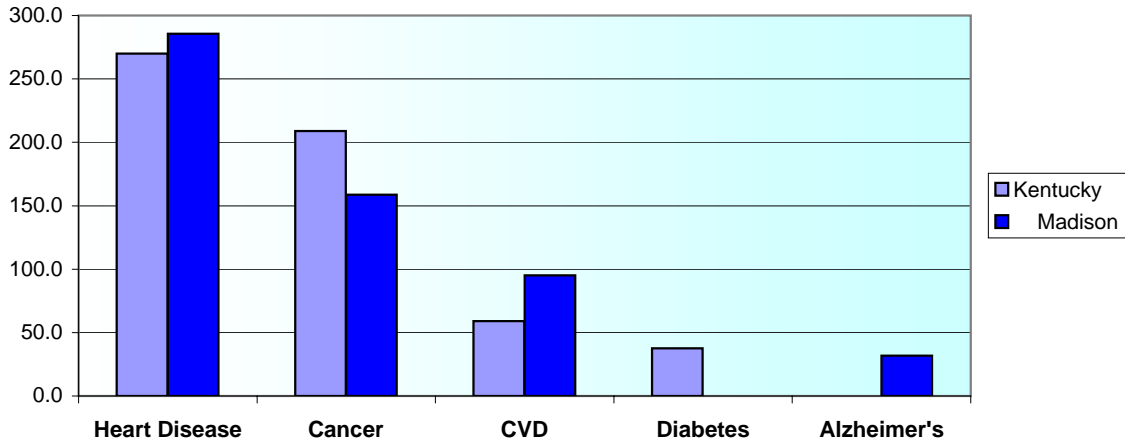


| Cause | Kentucky | Madison |
|---------------------------|----------|---------|
| Heart Disease | 309.5 | 235.1 |
| Cancer | 233.1 | 142.6 |
| CVD | 65.1 | 75.9 |
| Unintentional Injuries | 45.4 | 37.9 |
| Chronic Lower Respiratory | 56.0 | 31.9 |

Source: <http://chfs.ky.gov/NR/rdonlyres/5F82199F-3580-4DF9-9D9A-FE03F03C16B6/0/2000CntyprofcountiesLCD.pdf>

Analysis: Heart disease and cancer was the leading causes of death among whites at both the state and county levels. County levels for both conditions were lower than the state level. Cerebrovascular disease was a higher cause of death for white county residents compared to the state level.

**Kentucky and Madison County Comparison,
Leading Causes of Death for Black Population, 2000**

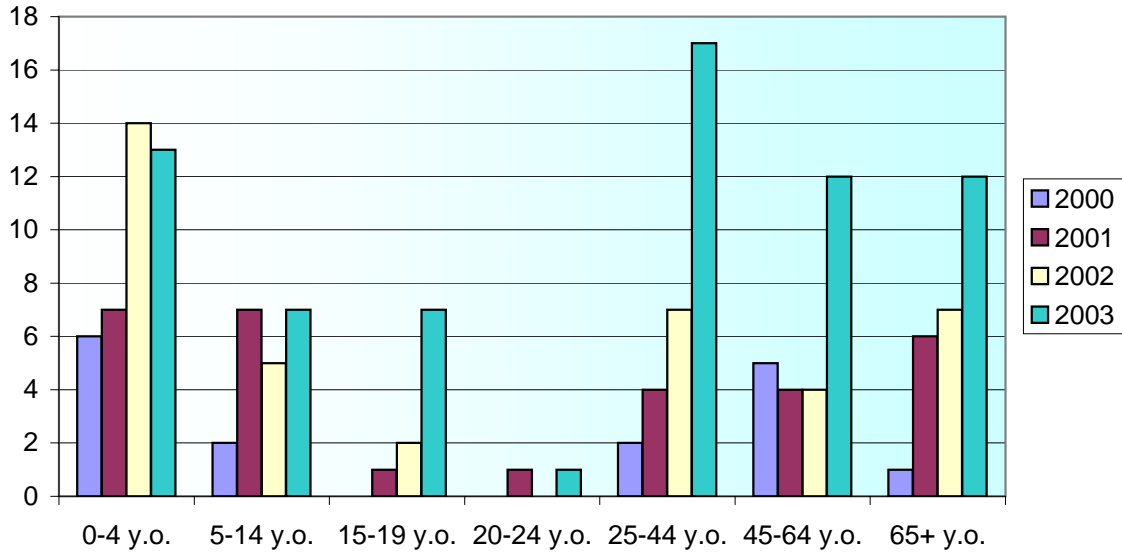


| Cause | Kentucky | Madison |
|---------------|----------|---------|
| Heart Disease | 269.9 | 285.7 |
| Cancer | 208.8 | 158.7 |
| CVD | 59.1 | 95.2 |
| Diabetes | 37.5 | |
| Alzheimer's | | 31.7 |

Source: <http://chfs.ky.gov/NR/rdonlyres/5F82199F-3580-4DF9-9D9A-FE03F03C16B6/0/2000CntyprofcountiesLCD.pdf>

Analysis: Higher deaths rates due to heart disease and cerebrovascular disease was seen in the county black or African American residents than at the state level. Cancer rates for state's black or African American population as a whole was high than at the county level. In contrast to the county's white population, Alzheimer's Disease and Assault (Homicide) was the fourth and fifth leading causes of death, respectively, at the county level. Unintentional injuries was the fifth leading cause of death at the state level.

Madison County, Resident Inpatient Hospitalizations by Age with a Primary Diagnosis of Asthma, 2000 - 2003 Comparison



| Year | 0-4 y.o. | 5-14 y.o. | 15-19 y.o. | 20-24 y.o. | 25-44 y.o. | 45-64 y.o. | 65+ y.o. |
|------|----------|-----------|------------|------------|------------|------------|----------|
| 2000 | 6 | 2-Jan | 0 | 0 | 2 | 5 | 1 |
| 2001 | 7 | 7-Jan | 1 | 1 | 4 | 4 | 6 |
| 2002 | 14 | 5 | 2 | 0 | 7 | 4 | 7 |
| 2003 | 13 | 7 | 7 | 1 | 17 | 12 | 12 |

Source: http://chfs/ky.gov/NR/rdonlyres/08F979D3-3D79-48BE-B2A9-4C55DC7EC2C5/0/HIDU_July_1_2003_June_30_2004.pdf

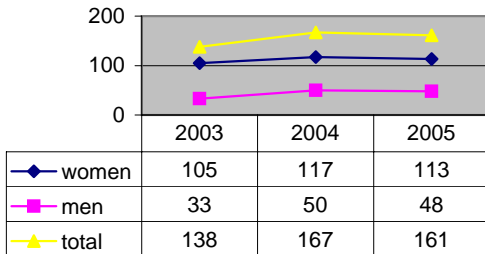
Analysis: Hospitalizations of Madison County residents due to asthma peaked significantly in the 25-44 year old age group in 2003 resulting in 17 admissions. Twenty-four adults, ages 44 and older, and thirteen children, 4 years of age and younger, were hospitalized the same year for asthma. The 2003 year resulted in a total of 69 admissions compared to 16 in 2000.

**Kentucky, Madison County Comparison,
Sexually Transmitted Infections, 2003-2004**

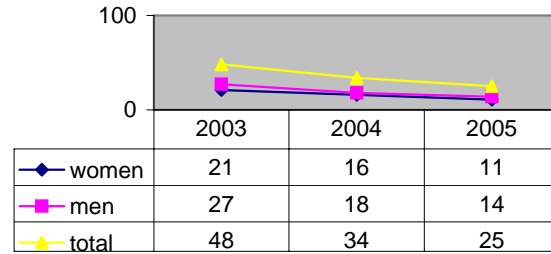
| Madison County Statistics | | | | | | | | | |
|---------------------------|-------|-----|-------|-------|-----|-------|-------|-----|-------|
| | 2003 | | | 2004 | | | 2005 | | |
| | Women | Men | Total | Women | Men | Total | Women | Men | Total |
| Chlamydia | 105 | 33 | 138 | 117 | 50 | 167 | 113 | 48 | 161 |
| Gonorrhea | 21 | 27 | 48 | 16 | 18 | 34 | 11 | 14 | 25 |
| Syphilis | 1 | | 1 | 1 | 1 | 2 | | 2 | 2 |

| Kentucky Statistics | | | | | | | | | |
|---------------------|-------|------|-------|-------|------|-------|-------|------|-------|
| | 2003 | | | 2004 | | | 2005 | | |
| | Women | Men | Total | Women | Men | Total | Women | Men | Total |
| Chlamydia | 6353 | 1613 | 7966 | 5028 | 1433 | 6461 | 6041 | 2285 | 8326 |
| Gonorrhea | 1727 | 1845 | 3572 | 1416 | 1338 | 2754 | 1530 | 1399 | 2929 |
| Syphilis | 81 | 78 | 159 | 49 | 102 | 151 | 28 | 100 | 128 |

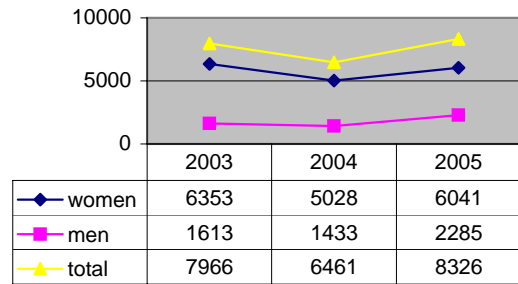
Chlamydia - Madison County



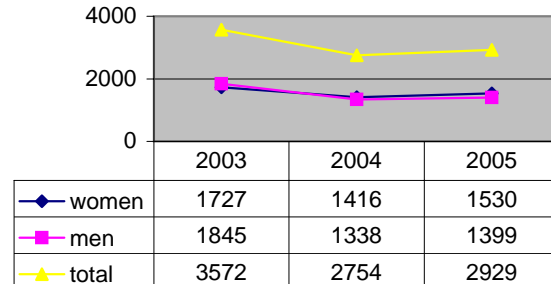
Gonorrhea - Madison County



Chlamydia - Kentucky



Gonorrhea - Kentucky



Source: STD Program, Kentucky Department for Public Health

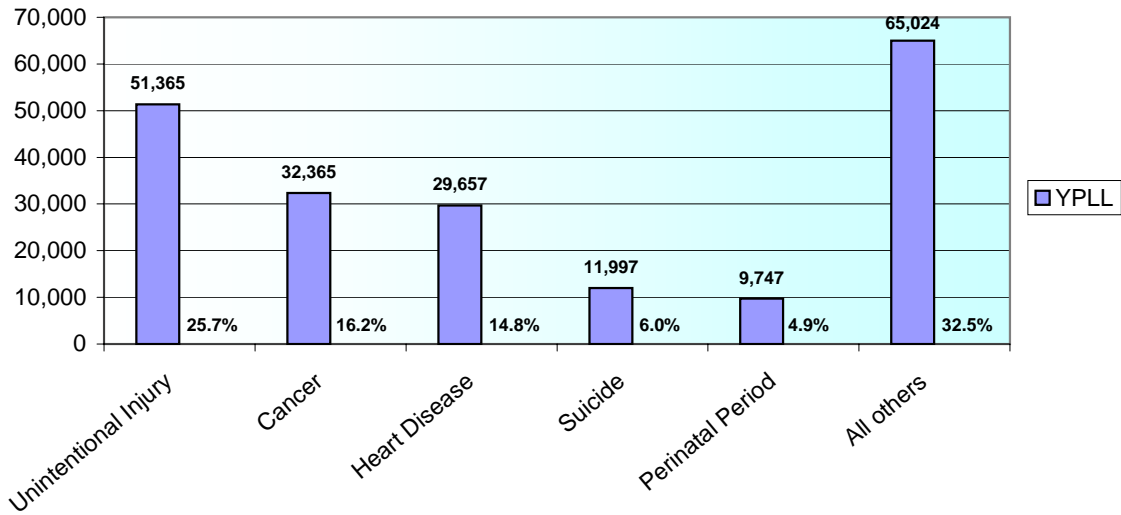
**Madison County,
Confirmed Number of Reportable Communicable Diseases, 2002-2006**

| Confirmed Disease | 2002 | 2003 | 2004 | 2005 | 2006 | Total |
|--|-----------|-----------|-----------|-----------|-----------|------------|
| Botulism | . | . | . | 1 | . | 1 |
| Campylobacteri | 2 | 3 | 3 | 5 | 3 | 16 |
| E Coli: Shiga Toxin Positive | . | . | 1 | 4 | 4 | 9 |
| E Coli: O157:H7 | . | . | . | . | . | |
| Grp. A Strep, Invasive Disease | 2 | 4 | . | 1 | 1 | 8 |
| Hepatitis A | . | 1 | . | . | 1 | 2 |
| Hepatitis B | . | . | . | 2 | . | 2 |
| Hepatitis C | . | 1 | . | . | . | 1 |
| Histoplasmosis | 1 | . | 1 | 2 | . | 4 |
| Influenza | 23 | 41 | 4 | 17 | 19 | 104 |
| Legionella | . | . | 1 | . | 1 | 2 |
| Lyme Disease | . | . | . | 1 | . | 1 |
| Malaria | . | 1 | . | . | . | 1 |
| Neisseria | . | 1 | . | 1 | . | 2 |
| Pertussis | 1 | . | . | . | . | 1 |
| Q Fever | . | 1 | 1 | . | . | 2 |
| Rabies, animal | 1 | . | 2 | . | 1 | 4 |
| Salmonella | 6 | 7 | 5 | 9 | 14 | 41 |
| Shigella | 2 | . | . | 2 | 3 | 7 |
| Strep Pneumoniae, drug-resistant invasive disease | . | 1 | 1 | 4 | 1 | 7 |
| Strep TSS | . | 1 | . | . | . | 1 |
| Tuberculosis | 1 | . | 2 | 1 | 1 | 5 |
| TOTAL | 39 | 62 | 21 | 50 | 49 | 221 |

Data compiled by: Judy Collins, Regional Epidemiologist, Madison County Health Department

Analysis: Influenza was the highest reported communicable disease among this grouping of reportable diseases. Even though there were a total of 104 cases, this may be lower than the actual numbers of cases due to lack of diagnosis, lack of reporting, and individuals with influenza may not have sought medical treatment, instead opting to self-treat. Each fall, Madison County Health Department offers flu vaccine at several clinic times and locations aimed at preventing wide spread flu in the community. Also, flu vaccine is taken to home-bound residents who are unable to attend a clinic.

**Kentucky, Years of Potential Life Lost before age 65, 2004,
All Races, Both Sexes, All Deaths**



| Cause | YPLL | Percent |
|----------------------|--------|---------|
| Unintentional Injury | 51,365 | 25.7% |
| Cancer | 32,365 | 16.2% |
| Heart Disease | 29,657 | 14.8% |
| Suicide | 11,997 | 6.0% |
| Perinatal Period | 9,747 | 4.9% |
| All others | 65,024 | 32.5% |

Source: <http://webappa.cdc.gov/cgi-bin/broker.exe>

Analysis: YPLL is an estimate on the total number years lost from persons who die prematurely due to a specific cause. Even though heart disease is the leading cause of death for both Kentucky and Madison County, unintentional deaths results in leading cause of years of potential life lost (YPLL) before the age of 65. Cancer is the second leading cause and a major contributing factor is due to the high percentage of the population who smoke resulting in cancers of the lung, trachea, and bronchus.

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