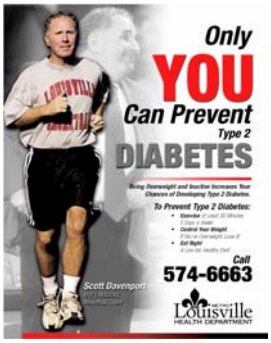
# Health Status Assessment Report
## 2007




LOUISVILLE METRO
PUBLIC HEALTH & WELLNESS

# Health Status Assessment Report


Louisville Metro Public Health and Wellness

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December 2007

**LOUISVILLE, KENTUCKY**

**LOUISVILLE METRO PUBLIC HEALTH & WELLNESS**

JERRY E. ABRAMSON
Mayor

ADEWALE TROUTMAN, MD, MPH
Director

To the Readers of this Report:

This is the fourth annual Health Status Assessment Report of the community in the new, more comprehensive format. One of the core functions of public health is assessment and this report reflects our commitment to our duty to assess the status of the health of the community. The contents of this report are intended to educate the community on the health indicators that reflect our health status and to provide data that can be used by all entities in the community to promote community discussion of the issues and collaboration that will lead to the improvement of the health of the community.

Each section of the report includes discussion of some of the health inequities that exist in our community. Only by understanding the inequities and the association between inequities and social determinants of health, can we correct the injustices that exist in our health care system.

We are excited about the opportunity to provide data that will initiate community discussion of the issues and encourage community partners to become involved in the formulation of the opportunities to improve the health of Louisville Metro. By working together we can achieve the goal of maximizing the health of all Louisville Metro residents.

We are committed to improving and expanding this report each year. If you have suggestion or comments, please contact our Office of Policy Planning and Evaluation at 574-6532 or 574-8270.

Sincerely,

*Adewale Troutman*

Adewale Troutman, M.D., M.P.H.
Director

# Health Status Assessment Report

## Table of Contents

## Executive Summary

One of the core functions of public health is to assess the health needs of the community. This Health Status Report is our assessment of the community and includes indicators in the areas of:

- Demographic Profile
- Maternal and Child Health
- Causes of Death
- Chronic Diseases
- Oral Health
- Mental Health
- Injury
- Lead Exposure
- Communicable Diseases

Data sources utilized in this report include official birth and death, hospital discharge, census, and cancer data as well as data collected and maintained at Louisville Metro Public Health and Wellness (LMPHW). Comparisons to state and national data, trends over time, and geographic distributions are included on selected indicators.

Each chapter of the report contains the following sections, which are included as appropriate:

- *What is it?* – A definition of the health indicator
- *Why is it important?* – A review of the importance of examining this area
- *What is Louisville Metro's status?* – A review of the relevant health data
- *What are we doing?* – Related program activities
- *What else do we need to do?* – Future plans and actions

## Summary of Findings

***Demographic Profile***

- The age distribution of Louisville Metro (LM) residents is similar to the nation, with an increase in the 45 to 54 year old age group since 1990.
- The majority of LM households have an annual income of under $50,000.
- LM and the United States have approximately 12% of their residents living below the poverty level.
- Of LM residents age 25 years and older, 18% have not earned a high school diploma and nearly half have never attended college.
- In 2005, the percent of LM residents who reported having some type of health care coverage was lower than in 2004. The percent was lowest for LM African Americans.
- According to the 2000 Census, the LM population by race/ethnicity is 76% White (Non-Latino), 19% African Americans (non-Latino), 2% Latino, and 3% Other.

***Maternal and Child Health***

- The average number of live births in LM was 9,678 per year from 1993-2004.
- The LM infant mortality rate generally has been declining from 9.9 deaths per 1,000 live births in 1993 to 6.1 in 2004.
- The infant mortality rate in 2004 among African Americans was 10 per 1,000 live births, about two times the rate among Whites (4.1).
- The percent of low birth weight births was highest in African American mothers (13.9%), almost twice the percent of White women (7.8%).
- The birth rate for teenage women ages 15 to19 years was 43.5 per 1,000 population, which is higher than the national rate of 41.1.

***Causes of Death***

- The LM age-adjusted death rate from all causes in 2003 was 943 per 100,000 population, which was substantially higher than the national rate of 801.
- The age-adjusted death rate for males was 40% higher than the female rate (956 for males and 679 for females).
- The age-adjusted death rate for African Americans was 32% higher than the rate for Whites (1196 compared to 908).
- The leading causes of death in LM during 2004 were:
    1. Diseases of the Heart
    2. Lung Cancer
    3. Stroke
    4. Chronic Obstructive Pulmonary Disease
    5. Unintentional Injuries
    6. Diabetes
    7. Colon Cancer
    8. Kidney Disease
    9. Alzheimer's Disease
    10. Pneumonia and Influenza
- Of the top five causes of death, men had higher mortality rates for all causes (heart disease, lung cancer, stroke, chronic obstructive pulmonary disease and unintentional injuries) than women.
- Of the top five causes of death, African Americans had a higher mortality rate from heart disease, stroke, and lung cancer. Whites had a higher death rate from chronic obstructive pulmonary disease and unintentional injuries than African Americans.

***Chronic Diseases***

Diseases of the Heart

- The age-adjusted rate of death for diseases of the heart in LM during 2004 was 248.8 per 100,000 population. This rate has remained relatively stable since 1995, but exceeds the Healthy People 2010 goal of 166.
- The death rate for African Americans was 31% higher than the rate for Whites (315 compared to 240).
- The death rate for men was 59% higher than the rate for women (320 compared to 201).

Lung Cancer

- The age-adjusted lung cancer death rate in LM was 75 deaths per 100,000 population in 2004. The LM rate was higher than the national rate of 52.9 and approximately 68% higher than the Healthy People 2010 goal of 44.8 deaths per 100,000.
- The lung cancer mortality rate for African Americans was 22% higher than the rate for Whites (91 compared to 74 per 100,000 population).
- The lung cancer death rate for males was 62% higher than the female rate (99 compared to 61 per 100,000 population).

Stroke

- The age-adjusted death rate for strokes in LM during 2004 was 56 per 100,000 population. The Healthy People 2010 goal is 48 deaths per 100,000.
- The age-adjusted death rate from stroke for African Americans was 36% higher than the death rate for Whites (72 compared to 53 per 100,000).
- The age-adjusted death rate from stroke was slightly higher among males than females (56 compared to 55 per 100,000).

Diabetes

- The age-adjusted diabetes death rate in 2004 was 31 deaths per 100,000 for Louisville Metro. This rate was higher than the national rate of 24.8.
- The diabetes death rate for African Americans was double the rate for Whites (56.8 compared to 27.6).
- The percent of people who reported knowing that they have diabetes increased from 7.7% in 2004 to 10.4% in 2005.

Asthma

- The hospitalization rate in Louisville Metro for asthma remained fairly constant and similar to the U.S. rates during the years 2001 through 2003. However, Louisville Metro had a higher rate than the U.S. for the first time in 2004.
- In 2005, over 15% of adults surveyed in Louisville Metro reported they had asthma. This was higher than the U.S. rate of 12.6%.

Behavioral Risk Factors

- The BRFSS survey asks respondents if during the past month they participated in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking other than their regular job duties. Louisville Metro residents reported participating in physical activity at a higher percent than reported by Kentuckians and a slightly higher percent than the U.S. overall.
- The 2004 survey showed that 27.2% of Louisville Metro adults currently smoke tobacco. In 2005 the percent fell slightly to 26.3%. These are lower than the rates reported by Kentucky, but higher than the rates for the U.S. In LM, the group with the highest percent was African American men (30.9% in 2005).
- Approximately 60% of the LM residents were either obese or overweight based on their reported height and weight in 2004 and 2005. These rates were lower than the Kentucky rates and similar to the national rates for those years.

- The percent of people in Louisville Metro who reported eating five or more servings of fruits and vegetables each day (27.2% in 2005) was higher than Kentucky (16.8%) and the United States (23.2%). However, all these data reflect that the majority of people are not eating the recommended daily amount of fruits and vegetables.

***Oral Health***

- Over 73% of LM adults in 2004 reported seeing a dentist during the past year, which was slightly higher than the percent for Kentucky, the US, and the Healthy People 2010 goal. However, that percent dropped to 66.9% in 2005 for Louisville Metro.
- Over 73% of Louisville Metro residents reported a "teeth cleaning" procedure during the past year in the year 2004. However, the percent dropped to 68% in 2005.

***Mental Health***

Mental Illness

- The percentage of people who reported fourteen (14) or more days during the past month when their mental health was "not good" was slightly lower for Louisville Metro compared to Kentucky (12.5% for Louisville Metro and 18.7% for Kentucky). The percent was 13.9% for females and 10.8% for males in Louisville Metro.
- Females in Louisville Metro also had higher percents reporting days where they felt depressed, anxious, or did not get enough sleep or rest when compared to males.

Suicide

- In 2004, the LM mortality rate from suicide was 12.8 deaths per 100,000 population. This rate was about the same as the rate for the state and slightly higher than the national rate, but more than twice the Healthy People 2010 goal.
- The suicide rate for males in LM was more than four times that for females (22 compared to 4.6).

***Injury***

Unintentional Injury

- In 2004, the age-adjusted mortality rate from unintentional injury was 39.4 deaths per 100,000 population. This was lower than the state rate of 54.5 and about the same as the national rate of 36.6. However, it was more than twice the Healthy People 2010 goal.
- The mortality rate from unintentional injury for males was over 80% higher than the rate for females (53 compared to 29 per 100,000).
- The largest category of unintentional injury deaths was motor vehicle crashes (34.9%), followed by accidental poisonings (20.9%) and falls (15.8%).
- The LM mortality rate from traffic-related motor vehicle crashes was 14 deaths per 100,000 population, considerably lower than the state (22.6) and about the same as the national rate (14.8), but still higher than the Healthy People 2010 goal of 9.2 for all motor vehicle crashes.
- The mortality rate from traffic-related motor vehicle crashes for males was more than twice the rate for females (20 compared to 9 per 100,000 population).

Bicycle and Pedestrian Collisions

- During the years 2000 through 2005 in LM, the number of pedestrian collisions ranged from 331 to 399 and the number of pedestrian fatalities ranged from 9 to 21 each year. The number of bicycle collisions varied from 151 to 185 and the cyclist fatalities from zero to three each year.
- Both Tuesday and Friday had the largest percentage of pedestrian collisions. Monday was the highest percentage day of the week for bicycle collisions. More than half of the bicycle collisions occurred between 2:00 and 7:00 PM, while 38% of the pedestrian collisions occurred during those hours.
- Drivers in both bicycle and pedestrian collisions and pedestrians involved in pedestrian crashes were more likely to be male than female. Of the cyclists involved in bicycle collisions eighty-five percent were male.
- The percentage of drivers involved in bicycle and pedestrian collisions who were 16 to 34 years of age were over-represented compared to their percent of the licensed drivers. The percent of bicyclists and pedestrians involved in these collisions who were twenty years of age and younger were over-represented in these collisions compared to their percent of the LM population.
- The darker it is outside, the more severe the injury was to a pedestrian struck by a motor vehicle in LM in 2005. Of the fourteen pedestrian deaths in 2005, 67% occurred when it was nighttime, dawn, or dusk.

Homicide

- The mortality rate from homicide in LM for 2004 was 9.8 deaths per 100,000 population, higher than the state rate of 5.5 and the national rate of 5.6.
- The homicide mortality rate for males was three times that for females in LM (15 compared to 5 per 100,000 population).
- The LM mortality rate from homicide for African Americans was more than eight times that of Whites (33.5 compared to 4 per 100,000 population).

***Lead Exposure***

- Twenty-four percent of the Louisville Metro children who were under two years of age were screened for blood lead level in 2006.
- Just over three percent of those screened had a blood lead level that was ten or more micrograms per deciliter.
- The mean blood lead level for all screened children was 3 micrograms per deciliter; 2.7 for White children and 3.4 for African American children.

***Communicable Diseases***

- The incidence of newly diagnosed AIDS cases reported to the state has been fairly consistent and was 11 per 100,000 population in 2005. The rate was highest for African Americans males.
- The incidence of primary and secondary syphilis cases in Louisville Metro has varied over the past five years. However, males have had a consistently higher rate than females.

- African American rates for gonorrhea and chlamydia continue to be much higher than the rates for Whites.
- The tuberculosis case rate for African Americans is higher than the rate for Whites in Louisville Metro and the U.S.
- Whites are more likely, at a national level, to have pertussis than African Americans. However, in LM African Americans have an incidence rate higher than Whites.

## Report Overview

Contents

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Terminology

For purposes of this report, specific terms of reference were selected. For race and ethnic categories, the terms "**White**," "**African American**," and "**Latino**" will be used. While "White" can be designated Caucasian, "African American" can be designated Black, and "Latino" can be designated Hispanic, a single term was selected for each category for consistency.

White and African American refer to race categories. Other race categories, such as Asian/Pacific Islander and American Indian, are included in the analysis if appropriate. On the other hand, Latino refers to an ethnic category ("Latino, any race" or "Non-Latino, any race"). If the analysis combines race and ethnicity, the designations become, for example, "White, Latino" or "White, Non-Latino."

Jefferson County, Kentucky contains the city of Louisville. In January of 2003 the governments of the city of Louisville and Jefferson County merged into one governmental entity. In this report, "**Louisville Metro**" will be the designation for the area formerly known as Jefferson County, Kentucky.

Data Analysis

The report uses the most current data considered official. The latest birth and death (vital statistics) files that were official at the time this report was compiled were for 2004. Data from 2005 and 2006 were used for other sources when available. For the Behavioral Risk Factor Surveillance System survey, 2004 and 2005 data were available for Louisville Metro and comparable data for Kentucky and the U.S. varied from 2002 to 2005.

The rates for communicable disease incidence and for chronic disease-related hospitalizations are generally presented as a *crude (unadjusted) rate* per 100,000 population. For example, to compute a crude rate per 100,000 population for the year 2004 for gonorrhea, the steps are:

- Divide the number of new cases of gonorrhea reported during the year 2004 by the population of the area
- Multiply that result by 100,000

The death (mortality) rates are computed as *age-adjusted rates*. The age-adjusted process compensates for the differences in the age composition of the population.

- First, a crude rate is calculated for each age category.
- Then the age-specific rate is multiplied by the proportion of the standard population that particular age category represents.
- These weighted age-specific rates are added together to make an age-adjusted rate for that population.

In addition to crude rates, age-specific rates and rates based on the number of live births are used in maternal and child health analysis.

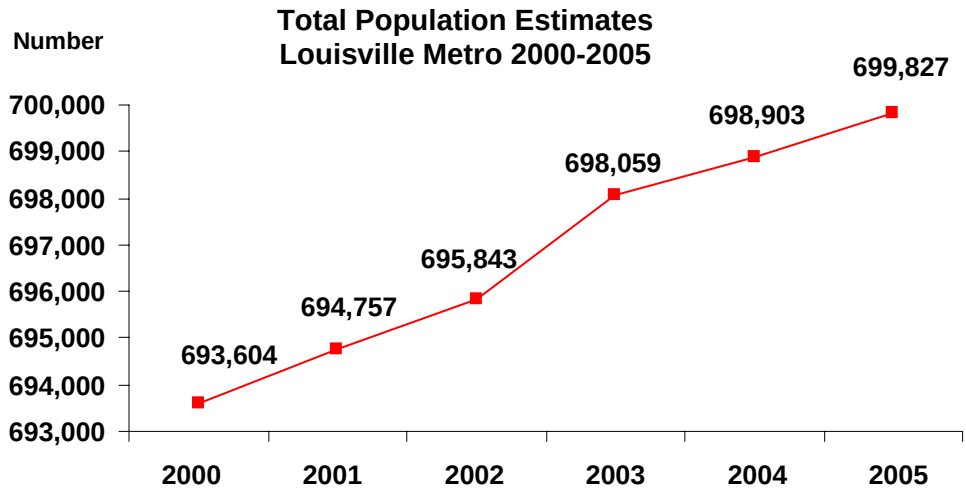
The Appendix at the end of the report provides tables of the diagnostic codes used to form the categories of analysis in the mortality and morbidity data.

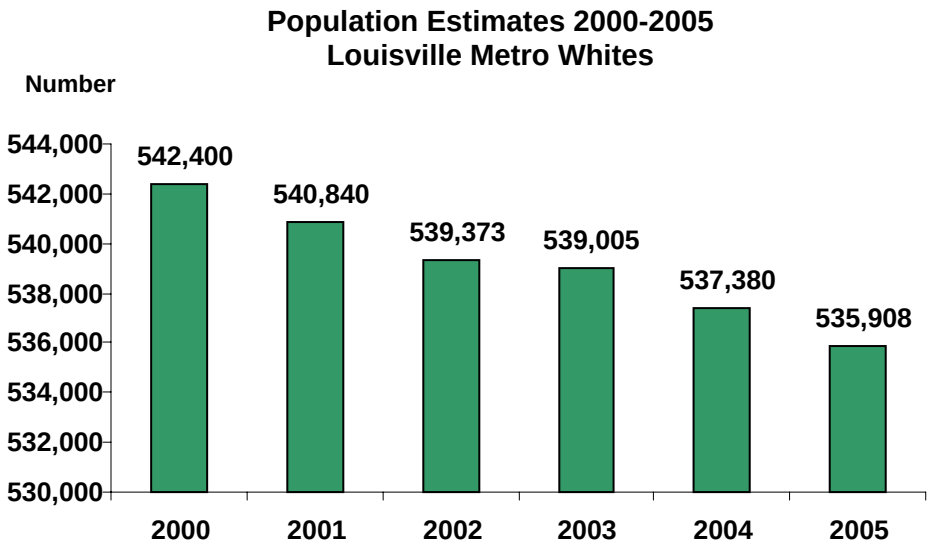

## Louisville Metro Demographic Profile

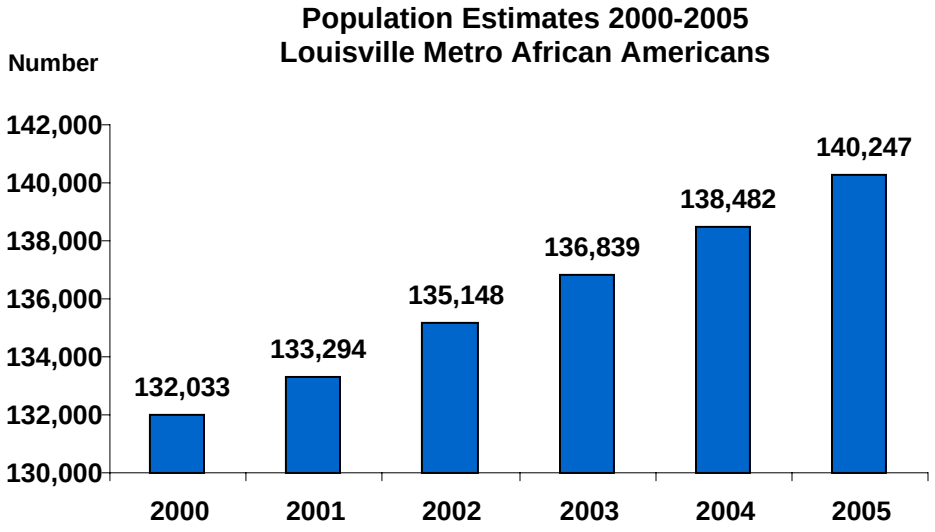
Many social and demographic characteristics are related to health status and health needs. Therefore, a thorough health status assessment requires a review and understanding of these characteristics.

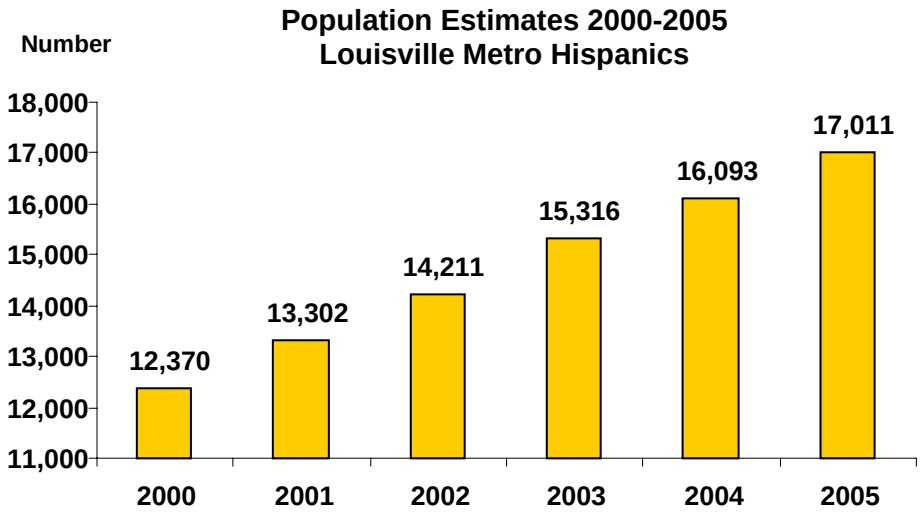
## Census Data

The U.S. Census Bureau takes a census of the population every 10 years, with the last one being completed in 2000. In 2000, the Bureau reported the Louisville Metro population of 693,604 and estimated a steady increase through 2005.[1] Projections according to race for 2001-2005 indicate a steady decline among Louisville Whites, but an increase among African Americans and Hispanics.




Population Estimates 2000-2005
Louisville Metro Whites
Number
544,000
542,000
540,000
538,000
536,000
534,000
532,000
530,000
542,400
540,840
539,373
539,005
537,380
535,908
2000
2001
2002
2003
2004
2005

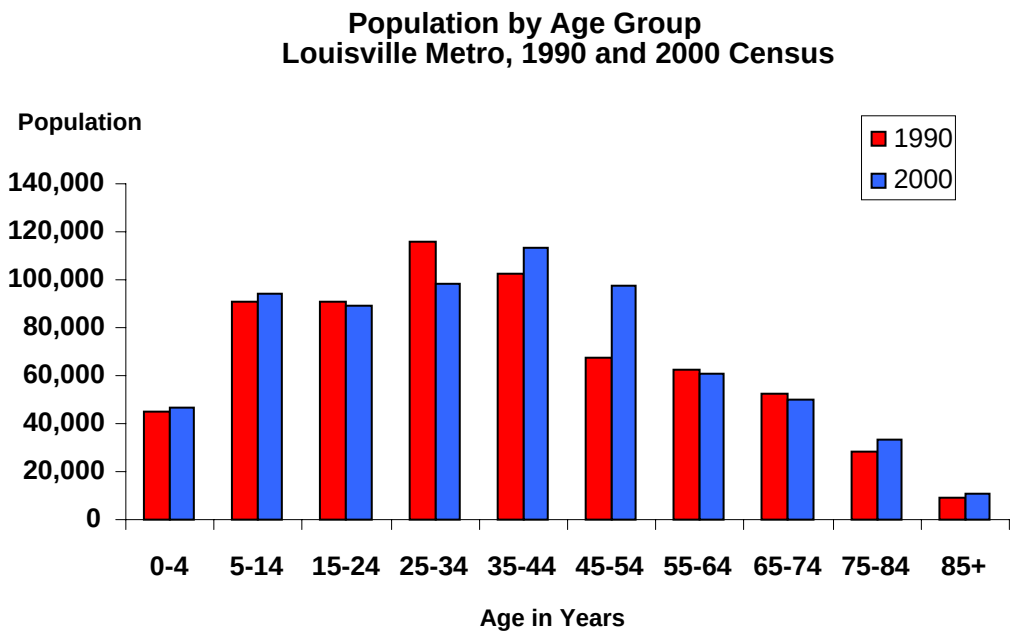

Population Estimates 2000-2005
Louisville Metro African Americans
Number
142,000
140,000
138,000
136,000
134,000
132,000
130,000
132,033
133,294
135,148
136,839
138,482
140,247
2000
2001
2002
2003
2004
2005




## Age

As this report verifies, health problems encountered and the preventive services needed vary greatly by the age of the individual. Senior adults have health care needs that are very different from younger adults and children. For example, younger individuals have a higher death rate from accidental injuries and older individuals have an increased chance of having their health affected by chronic diseases.

The age distribution of Louisville Metro residents is very similar to the age distributions of Kentucky and the United States. The largest changes between 1990 and 2000 in the Louisville Metro population were a 15% decrease in the 25 to 34 year old age group and a 45% increase in the 45 to 54 year old age group.[2] These changes are explained largely by the aging of the 'baby boom' generation. As this group continues to age, chronic diseases and other health issues associated with an older population will require more attention from Louisville Metro Public Health and Wellness.

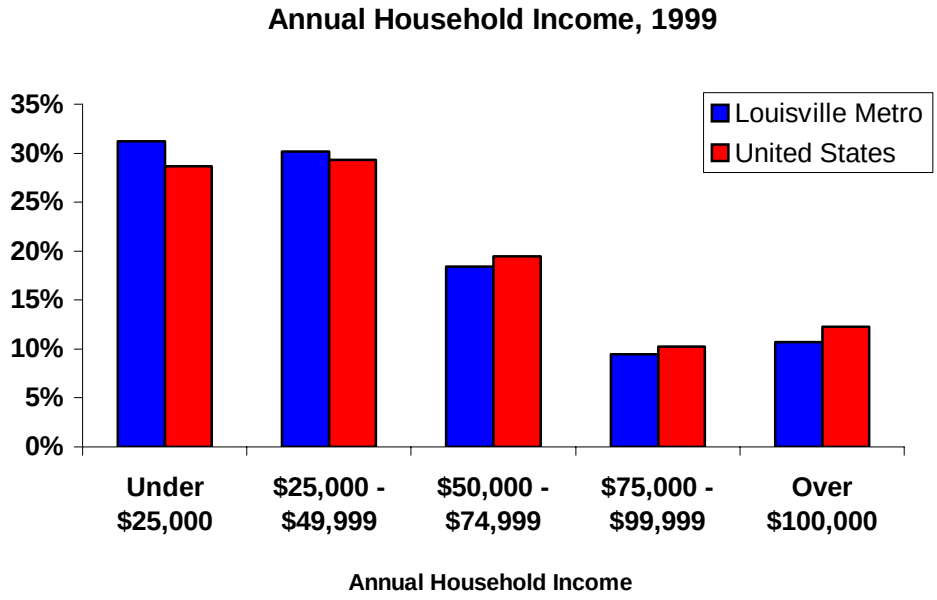



## Economic Status

There is a strong positive relationship between one's economic status and health. A lower economic status can create health problems associated with poor housing, an inadequate diet, and a lack of access to health services. In addition, major health problems, regardless of their cause, can inflict great financial hardship on families and dramatically alter the health status and life chances of all family members.

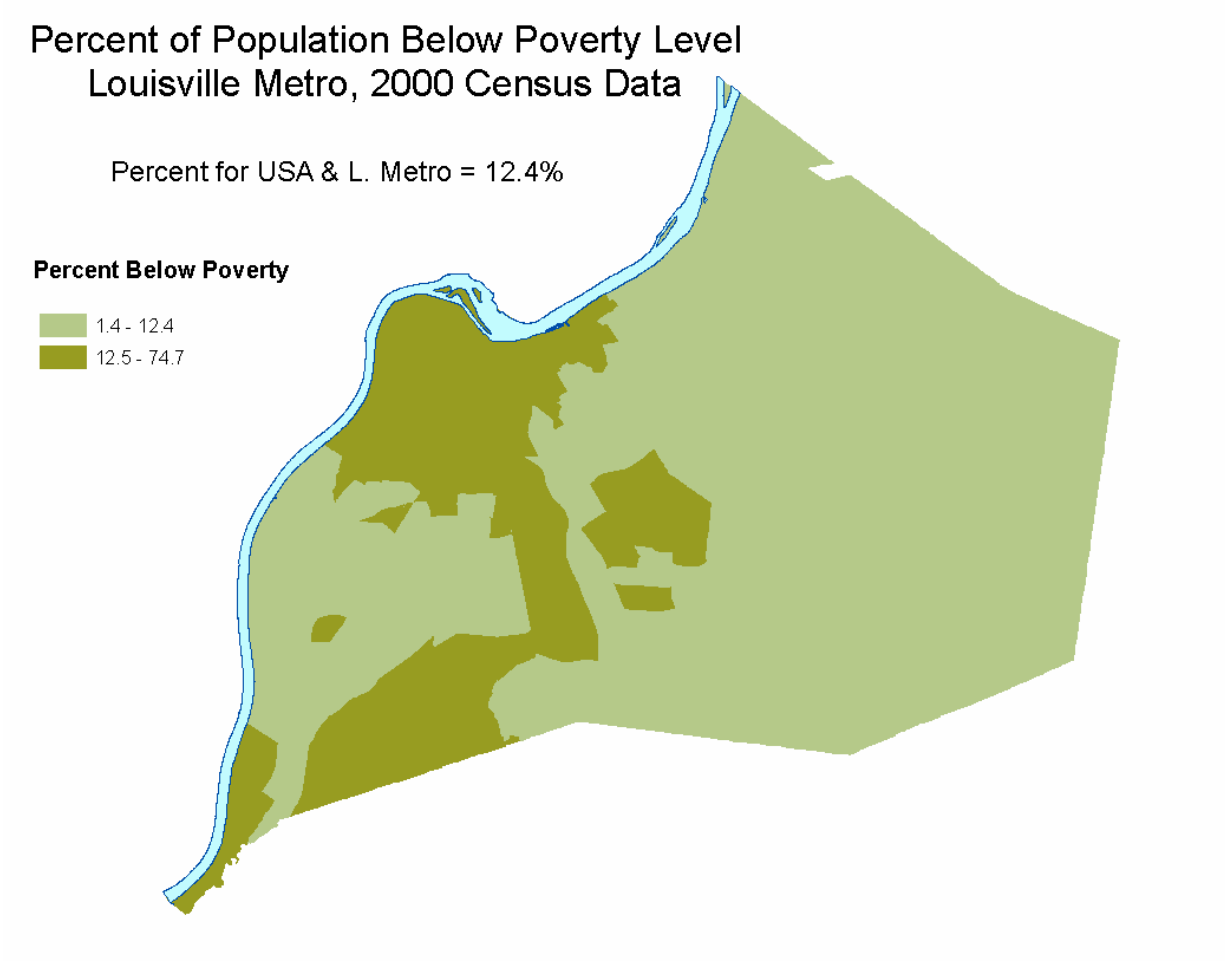
Income

Income is one indicator of economic status. Louisville Metro households have a median income of $39,457 while the median income for the nation is $41,994. The majority of Louisville Metro households earn under $50,000 each year. Almost a third of the Louisville Metro households have annual incomes under $25,000 while almost another third of the households earn from $25,000 to under $50,000 each year. Louisville Metro has a higher percent of households in both of these lower income categories than the nation.



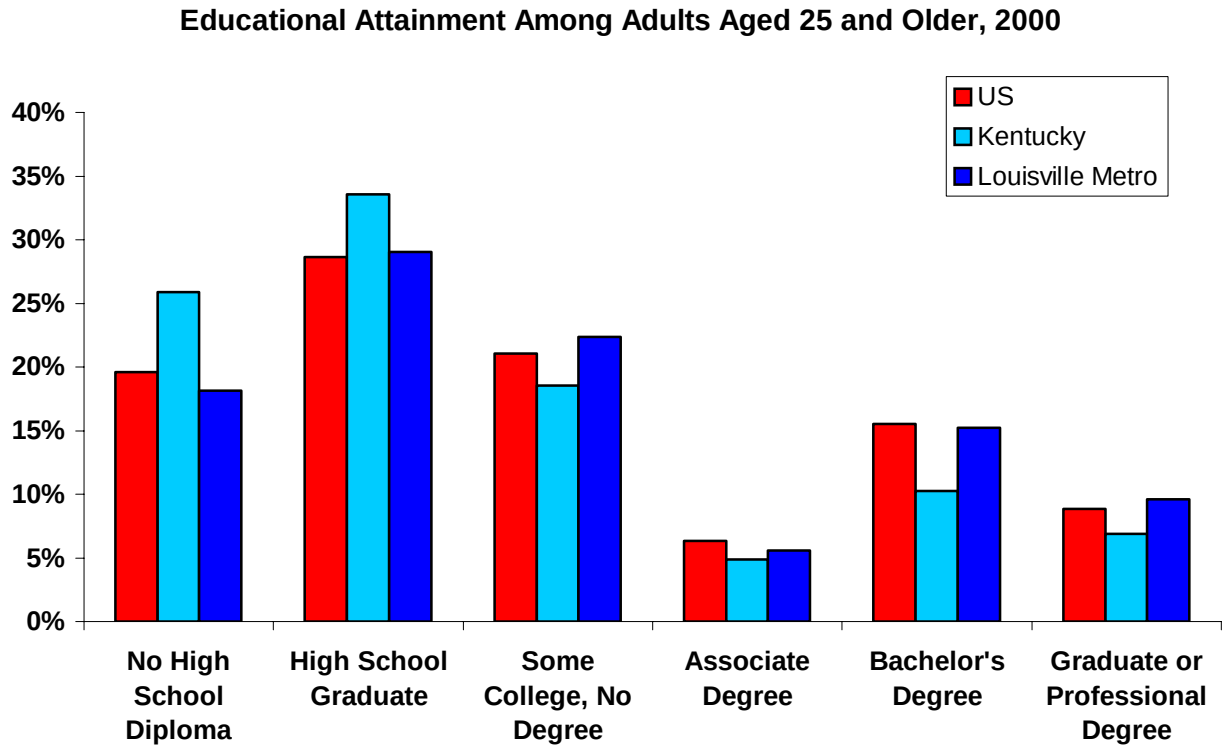

Federal poverty thresholds are defined by the U.S. Census and vary by size and composition of the household. In 1999, a family of four with two children was considered to be in poverty only if their income was less than $16,895.[3] According to 2000 census data, both Louisville Metro and the nation have 12.4% of their residents living below the poverty level.

The map below shows the percent of the population living below the poverty level in Louisville Metro. The lighter shade of color represents the areas where the percent living in poverty is at or below the U.S. and Louisville Metro rate. The darker shade represents areas where the percent is above that for the U.S. and Louisville Metro.



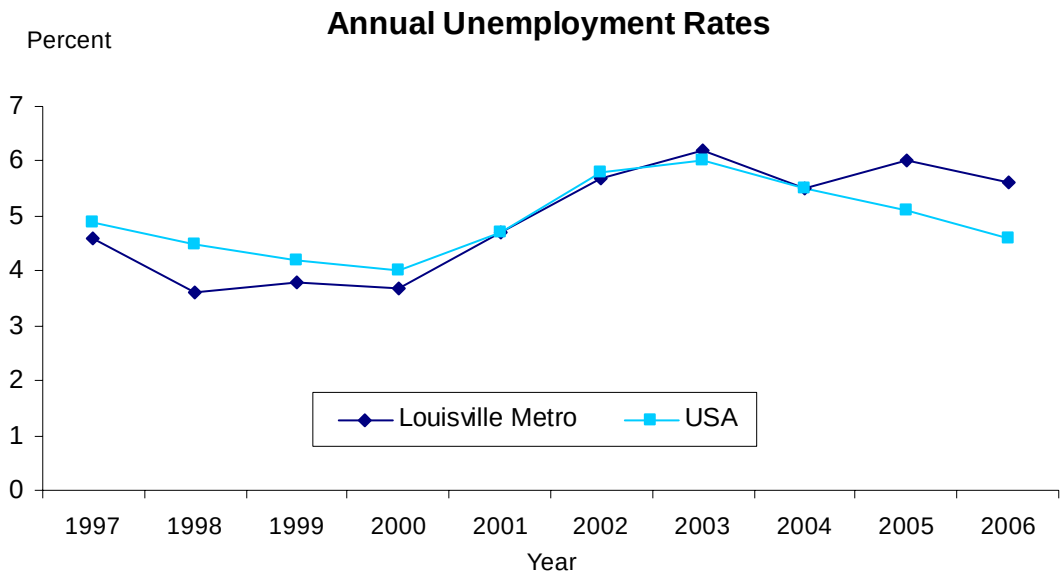

## Education

Education is an indicator of social and economic status and of economic potential. The educational attainment of Louisville Metro residents is more similar to that of the United States as a whole than the Commonwealth of Kentucky. Eighteen percent (18%) of Louisville Metro residents who are 25 years of age an older have not earned a high school diploma. Nearly half of the residents 25 years of age and older have never attended any college.



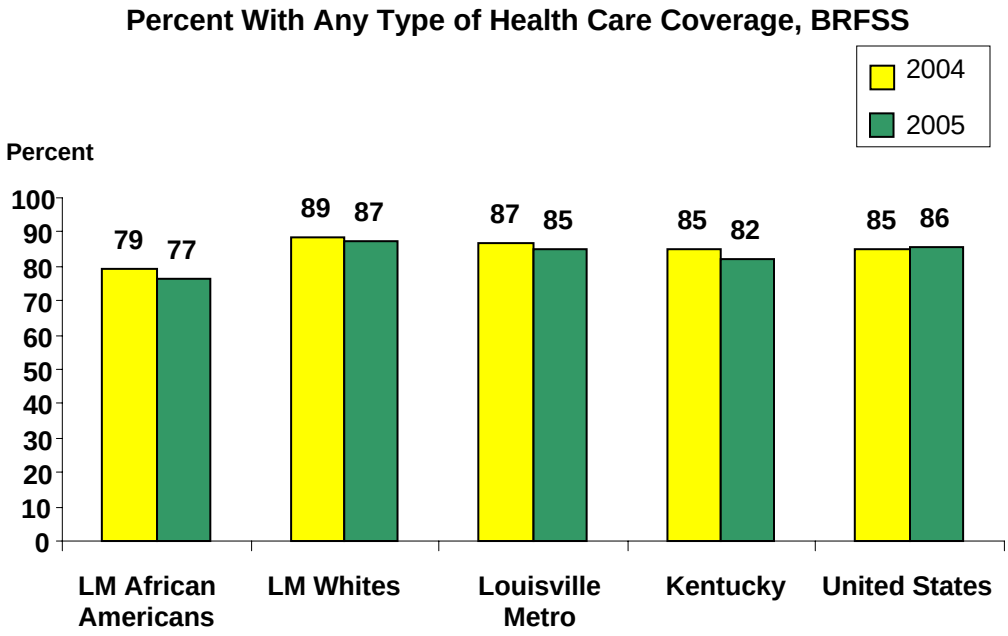

## Unemployment

Unemployment is also an indicator of economic status. Employment status is important because health coverage may be related to employment status. In order for a person to be defined as unemployed, they must have actively sought work over the previous four weeks. Persons who stop looking for work are not considered to be a part of the workforce and are not counted as unemployed. For this reason, unemployment statistics underestimate the actual percentage of unemployed persons. From 1997 through 2000, Louisville Metro had an annual unemployment rate that was lower than the rate for the United States. From 2001 through 2004, the rate for Louisville Metro was similar to the U.S. However, in 2005 and 2006 the unemployment rate in Louisville Metro had been higher than the rate for the U.S.[4]




## Health Care Coverage

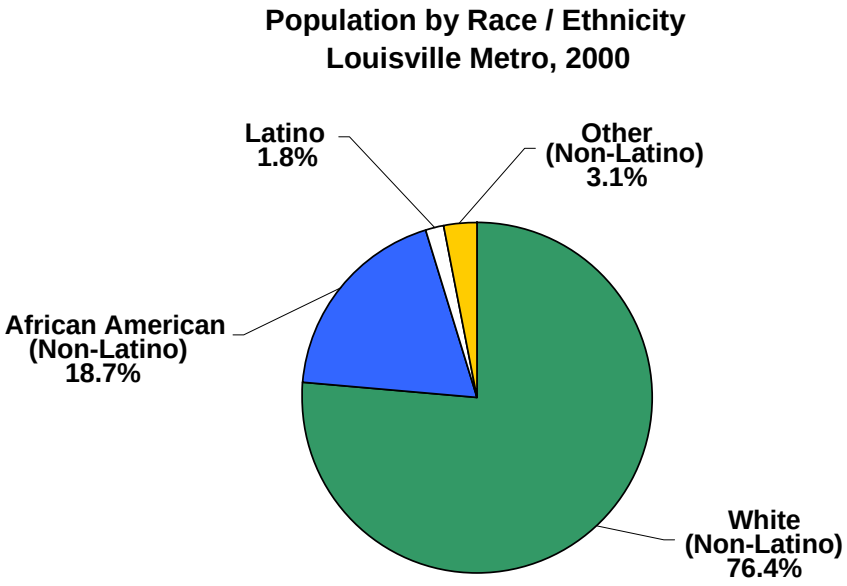
The percent of the population having some type of health care coverage is another indicator of access to health care services. The percent of Louisville Metro residents who reported health care coverage was slightly higher than the percent for Kentuckians and the United States in both 2004 and 2005. However, if you examine coverage in Louisville Metro for African Americans, the percent was lower than the percent for Kentucky and the United States. In addition the percent for Louisville Metro overall, Louisville Metro Whites, and Louisville Metro African Americans decreased from 2004 to 2005.



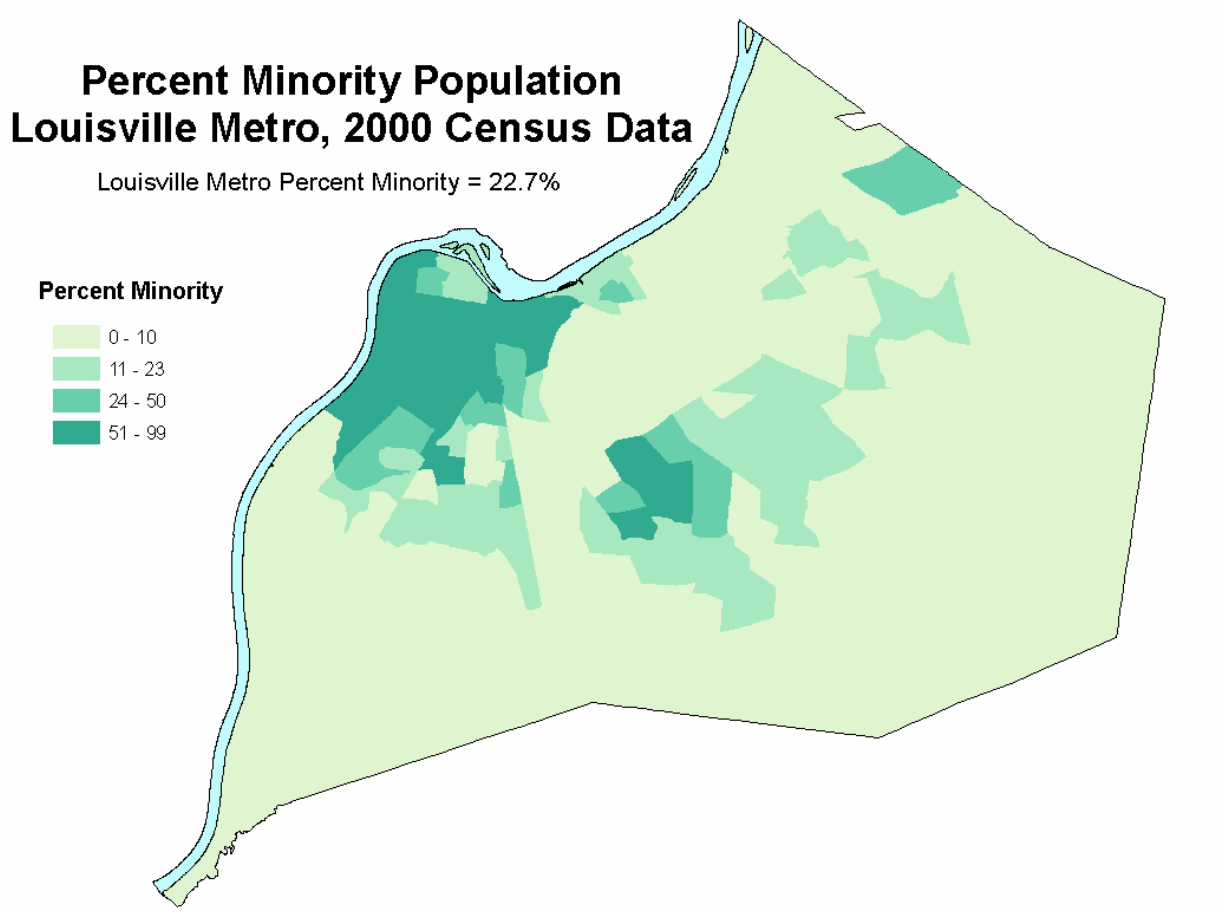

## Race and Ethnicity

In the U.S., race and ethnicity are closely associated with economic status. The health implications, however, go beyond economics because race and ethnicity are also associated with different cultural patterns. These differences can influence health related behaviors ranging from diet to when it is considered appropriate to seek health care.

Louisville Metro has a minority population of 23.6%. This is slightly lower than the percent for the nation at 24.9%. The largest portion of this minority population in Louisville Metro is African American. Other groups include Asians and American Indian/Alaskan Natives. The proportion of minority residents in Louisville Metro increased over the period from 1990 to 2000.

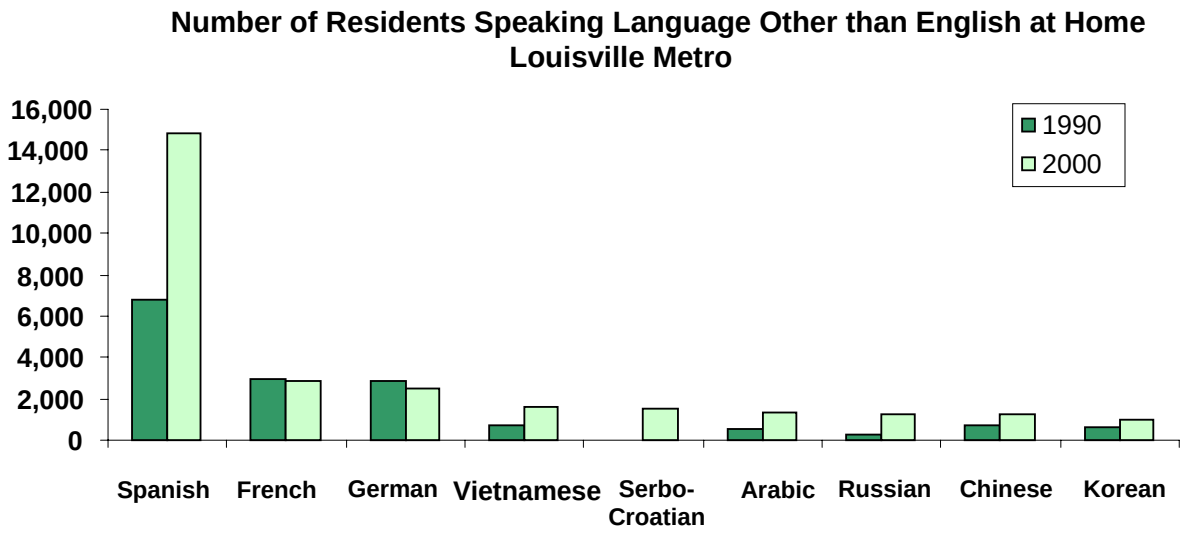



The minority population in Louisville is concentrated primarily in two areas of the community, in the northwest and the south central areas. The map below shows the percent minority population for geographic areas in Louisville Metro. The lightest color shade represents areas where 10% or less of the population is a minority race. The next darker shade is over 10% but not higher than the overall Louisville Metro percent minority. The darker shades represent areas of 24 to 50% and over 50% minority, respectively.




## Languages Spoken

The percent of residents of Louisville Metro who do not speak English well or do not speak English at all is only 1.2%. However, 5.5% of all residents speak a language other than English at home. Most residents who speak another language at home speak Spanish. The Kentucky Data Center believes that Latino residents of the county were undercounted in the 2000 census. Persons with limited English proficiency may not have understood or returned the census questionnaire. Undocumented persons may have avoided contact with the Census Bureau employees. Therefore, census data related to foreign-born persons, or persons of limited English proficiency should be interpreted with caution.




Louisville Metro Public Health and Wellness (LMPHW) is committed to principles of cultural competency and is actively training its employees to understand these trends and the needs of these diverse communities. Special phones are available at LMPHW clinics to provide translation services to ensure that English proficiency is not a barrier to delivery of service.

## References

1. Kentucky State Data Center. Population Estimates by Race, Gender, and Hispanic Origin: 2000 to July 1, 2005, State, Areas Development Districts, and Counties. http://ksdc.louisville.edu/kpr/popest/cbest05_staddco_race-sex-hisp.xls. Accessed 3 January 2008.

2. U.S. Census Bureau. American Factfinder. Available at http://www.census.gov. Accessed 3 January 2008.

3. U.S. Census Bureau. Poverty 1999. Available at http://www.census.gov. Accessed 3 January 2008.

4. Workforce Kentucky. Unemployment Rates. http://www.workforcekentucky.ky.gov. Accessed 3 January 2008.

## Maternal and Child Health

Maternal and child health (MCH) indicators include those related to the health of pregnant women, women after giving birth, and their infants and children. The health of mothers, infants and children is important as an indicator of the current health status of our community and as a predictor of the health of the next generation. This section covers key MCH indicators: infant mortality, low birth weight, prenatal care, and births to teenagers.

### Characteristics of Live Births

The number of live births in Louisville Metro was 9,896 in 2004. The birth rate in Louisville Metro has increased over the last twelve years. In 1993, the birth rate was 13.5 per 1,000 population. In 2004, the birth rate reached 14.3 per 1,000 population.

In 2004, most of the births (69.1%) occurred in White women. African American women had 24% of all live births. Five percent of the births were to women of Latino ethnic origin.

Birth rate is calculated as the number of births per 1,000 population. The highest birth rate was in Asian and Pacific Islander women (29.0), followed by African American women (18.5). the lowest birth rate of 12.7 occurred in White women.

A majority of the births (77.3%) were to women 20 to 34 years of age. Teenage females (age 15-19) account for 9.8% births, and 12.5% births were to women 35-44 years of age. Birth rates to mothers age 15-19 have declined over the six year period from 1999-2004. In 1999 the birth rate for women in the 15-19 year age group was 58.9. In 2004 the birth rate for this group was 43.5. Eighty-one percent of those giving birth had a high school degree.

# Select Characteristics of Live births to Louisville Metro Residents, 2004

| | Births | % | Birth Rate* |
|---|---|---|---|
| **Year** | | | |
| 1993 | 9,388 | | 13.5* |
| 1994 | 9,561 | | 13.8* |
| 1995 | 9,441 | | 13.6* |
| 1996 | 9,695 | | 14.0* |
| 1997 | 9,569 | | 13.8* |
| 1998 | 9,495 | | 13.7* |
| 1999 | 9,705 | | 14.0* |
| 2000 | 10,120 | | 14.6* |
| 2001 | 9,777 | | 14.1* |
| 2002 | 9,708 | | 14.0* |
| 2003 | 9,788 | | 14.1* |
| 2004 | 9,896 | | 14.3* |
| **Race of Mother** | | | |
| White | 6,841 | 69.1% | 12.7* |
| Black or African American | 2,421 | 24.5% | 18.5* |
| Asian/ Pacific Islander | 287 | 2.9% | 29.0* |
| American Indian | 18 | 0.2% | 11.8* |
| Other/Unknown | 329 | 3.3% | ** |
| **Ethnicity of Mother** | | | |
| Non-Latino | 9,358 | 94.6% | |
| Latino | 526 | 5.3% | |
| **Age of Mother (years)** | | | |
| 15-19 | 969 | 9.8% | 43.5*** |
| 20-34 | 7,648 | 77.3% | 106.1*** |
| 35-44 | 1,238 | 12.5% | 21.3*** |
| Mother ≥ 12 yrs Education | 7,917 | 81.4% | |

* Births per 1,000 population

** Rate not calculated due to unavailability of data for denominator

*** Births per 1,000 women in that age group

## Infant Mortality

### *What is it?*

Infant mortality is the death of an infant before the date of the first birthday. The infant mortality *rate* is the number of deaths of infants less than one year old per 1,000 live births during the same period of time.

### *Why is it important?*

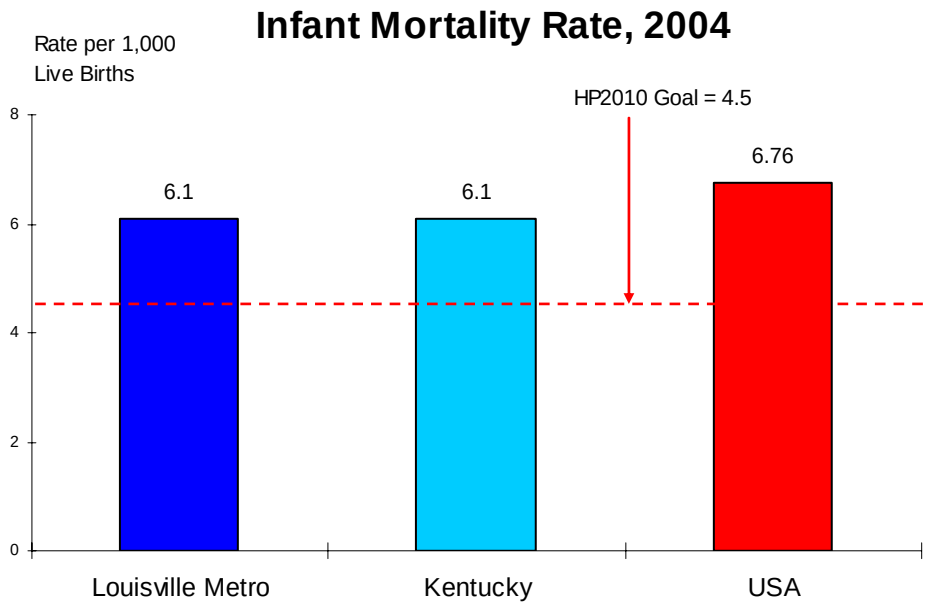
Infant mortality is the leading indicator of the health status of a nation or a community. Infant mortality rates in the nation over the past several decades have substantially decreased from 29.2 in 1950 to 6.8 deaths per 1000 live births in 2004.[1, 2]

Infant mortality is also an indicator of the health of a community and its mothers. It represents many factors that affect infant deaths. These factors include the general health of pregnant women, their ability to access prenatal care, the care that they receive during and after delivery, care provided to the newborn, and the care the infant receives when he or she goes home. The most prevalent causes of infant death in 2004 were birth defects, prematurity and sudden infant death syndrome (SIDS).[2]

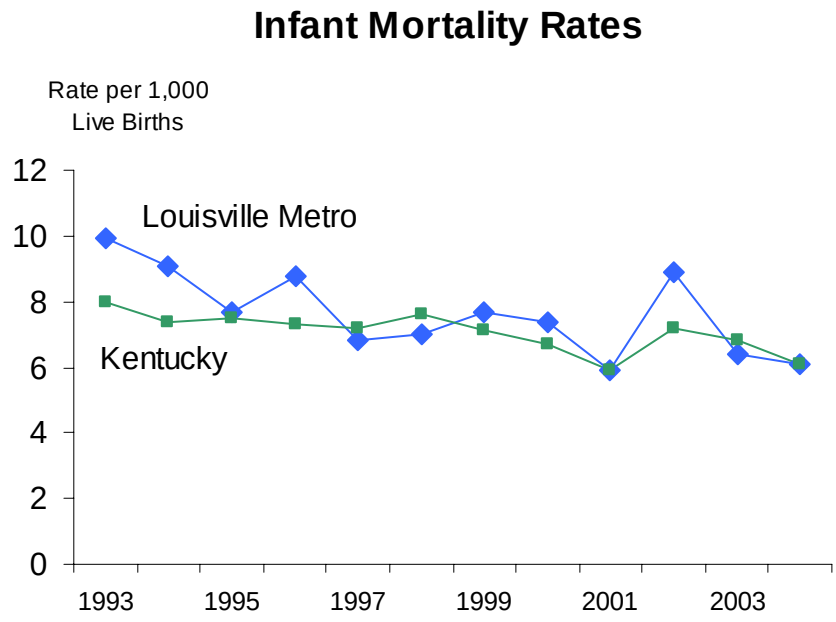
Higher rates of infant mortality are associated with the age of mother (under 17 years and over 43 years), substance abuse by mother, premature birth, low birth weight, exposure to secondhand smoke, inadequate prenatal care, infections and other complications during pregnancy.[3]

### *What is Louisville Metro's status?*

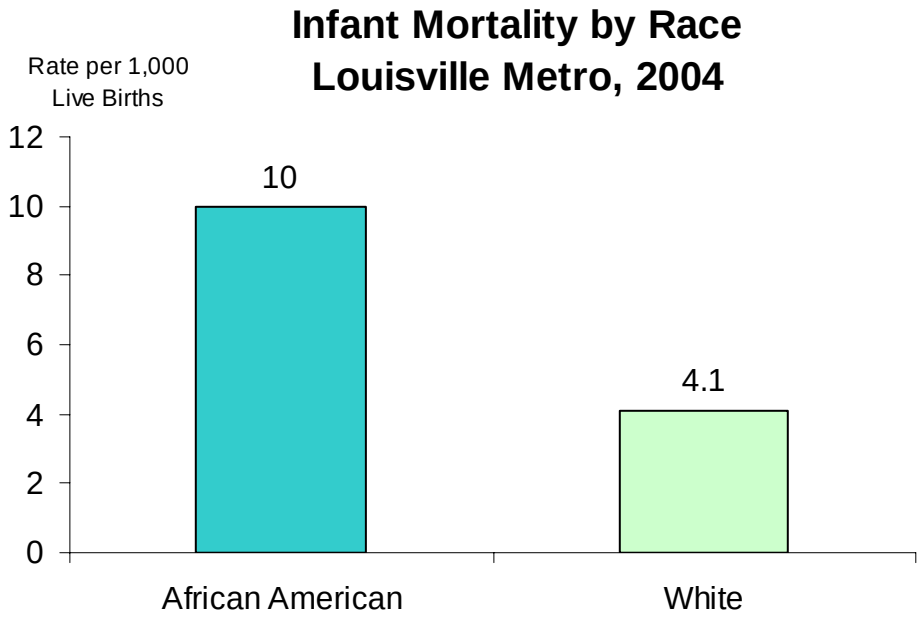
The infant mortality rate for Louisville Metro in 2004 was 6.1 deaths per 1,000 live births. Although the infant mortality rate decreased in 2004, the rate is higher than the Healthy People 2010 national goal of no more than 4.5 deaths per 1,000 live births.[3]




In 2004 Louisville Metro's infant mortality rate was lower than the United States rate and equal to the Kentucky rate. The infant mortality rate for Louisville Metro has declined over the twelve year period from 1993 to 2004. In 1993 the infant mortality rate was 9.9 deaths per 1,000 live births and in 2004 the rate was 6.1 deaths per 1,000 live births.



The infant mortality rate among African Americans was 10 per 1,000 live births in 2004, more than two times the rate for Whites (4.1). Important determinants of racial differences in infant mortality are low birth weight (LBW), and very low birth weight (VBLW).[4]




In 2004, 68 infants died before their first birthday in Louisville Metro. Forty-four (44) of these deaths (nearly 65%) occurred during the neonatal period, the first 27 days of life. The remaining 24 deaths occurred during the post-neonatal period, from 28 days to one year after birth. Of the infants who died, 44% were White, 52% were African American and 3% were of other races.

## Low Birth Weight

### *What is it?*

Babies who are low birth weight (LBW) weigh less than 2500 grams (or 5.5 pounds) at birth. Very low birth weight (VLBW) babies weigh less than 1500 grams (or 3.3 pounds).

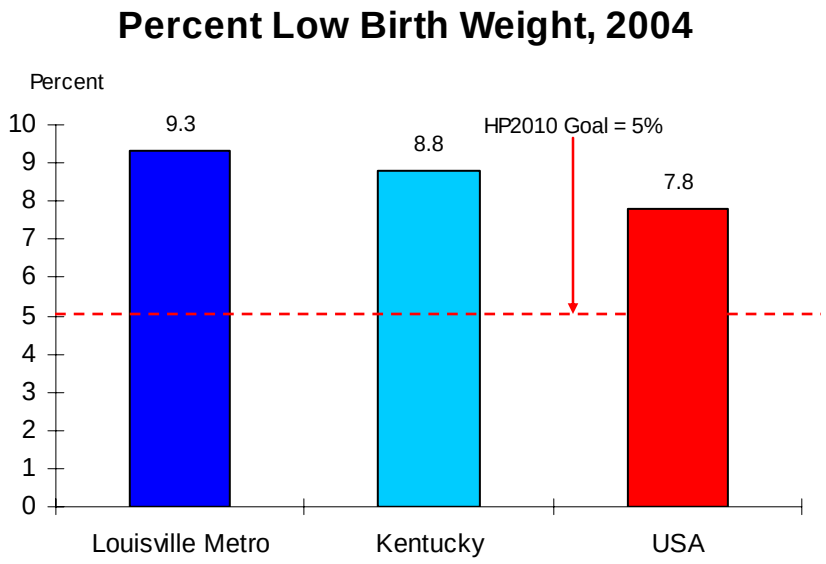
### *Why is it important?*

Low birth weight is the leading cause of infant death. Achieving a healthy weight is crucial for a newborn's survival. Most of the low birth weight and very low birth weight babies die during the first 28 days of their life. Therefore, improvement in the babies' birth weight can have a significant impact in reducing infant mortality. Additionally, LBW children are at risk for lower scores on intelligence tests and for developmental delays. As a group, LBW children experience more health problems, such as asthma, upper and lower respiratory infections, and ear infections.[5]

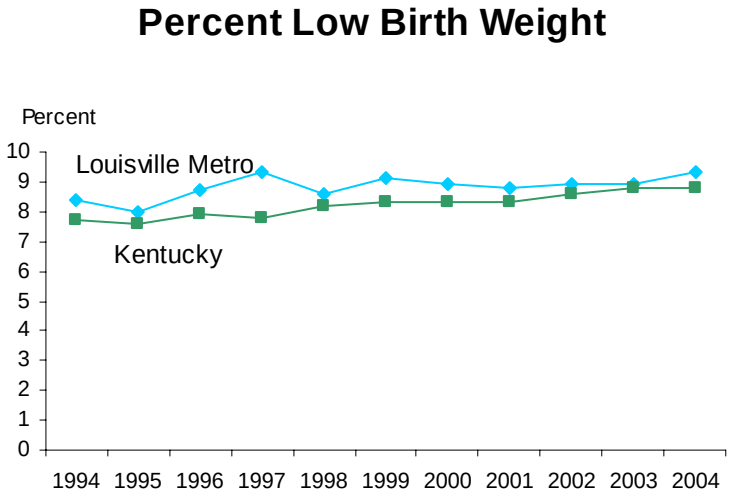
Several social and medical factors contribute to the risk of a low birth weight infant. Most important among these are pre-term (or early) labor and delivery, pregnancy associated hypertension (high blood pressure), maternal smoking and illicit drug use, young age of mother, poverty, decreased access to care, increased stress, poor maternal nutrition and a lower level of education of the mother.[6]

### *What is Louisville Metro's status?*

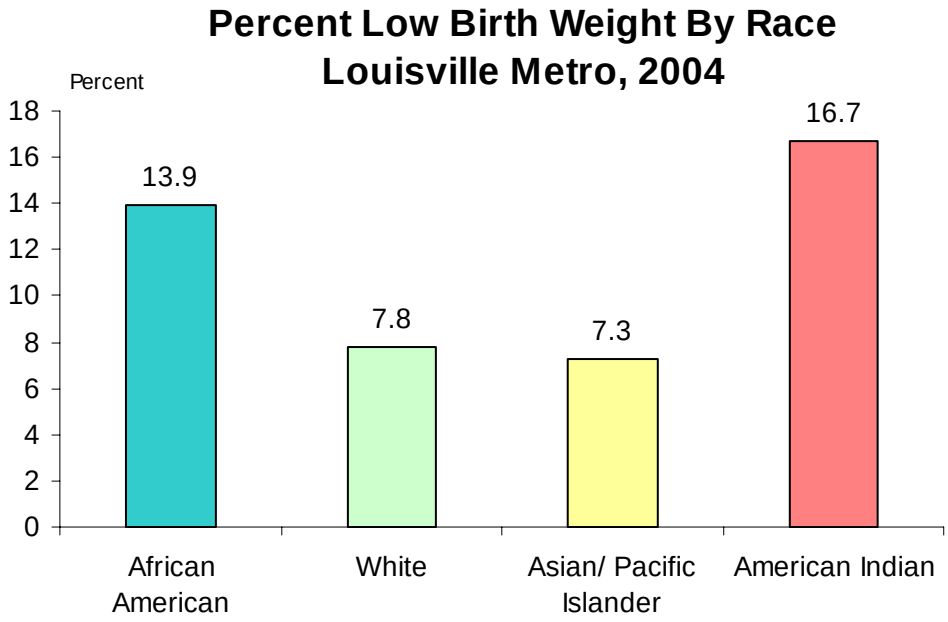
In 2004, 9.3% (or 918) of the 9,896 live births in Louisville Metro were low birth weight. Of the low birth weight births, 196 (or 21.4%) were very low birth weight. The percentage of low weight births in Louisville Metro was higher than the percent low weight births in Kentucky (8.8%)[9] and the United States (7.8%). These rates exceed the Healthy People 2010 goal of 5%.[3]



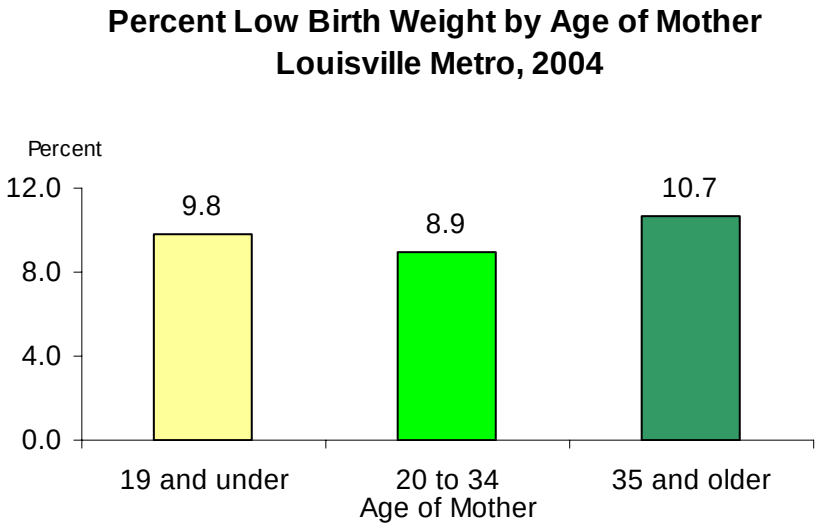

The proportion of low birth weight babies in Louisville Metro has increased overall from 7.9 in 1993 to 9.3 in 2004. A rise in the percent of low birth weight babies is also seen in Kentucky from 1993 to 2002. However, the state percent has been consistently lower than the percent in Louisville Metro.



The percent of low birth weight babies was highest to American Indian mothers (17%), followed by African American mothers (13.9%) and White mothers (7.8%). The origin of the differences between the African American and White races in low birth weight is complex and can not be explained entirely by demographic risk factors such as maternal age, education, or income.[4] Factors that may contribute to this disparity include racial differences in maternal medical conditions, stress, lack of social support, vaginal infections, previous preterm delivery and maternal health experiences that might be unique to African American women.[7]

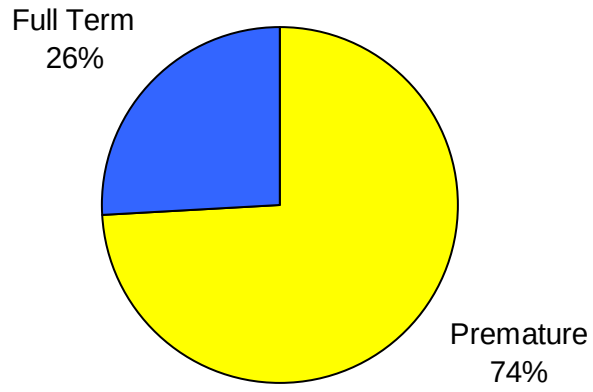



As a group, mothers 35 years of age and over had the highest percentage of low birth weight births (10.7%) followed by mothers 19 years of age or under (9.8%) in 2004.



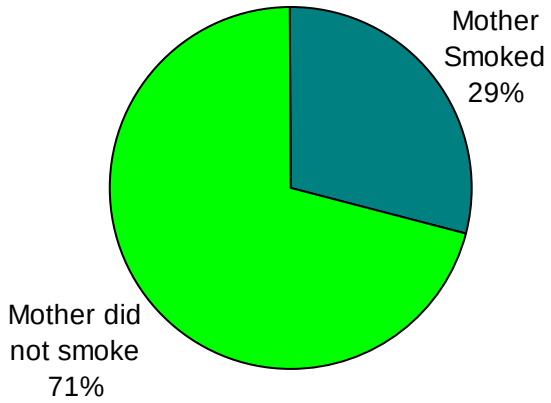
There is a strong association between LBW and preterm delivery. Preterm births are the live births that occur before 37 weeks of pregnancy. Of the 918 low weight births in Louisville Metro, 682 (73%) were preterm (or premature) births.

**Level of Maturity at Birth for Low Birth Weight Infants Louisville Metro, 2004**

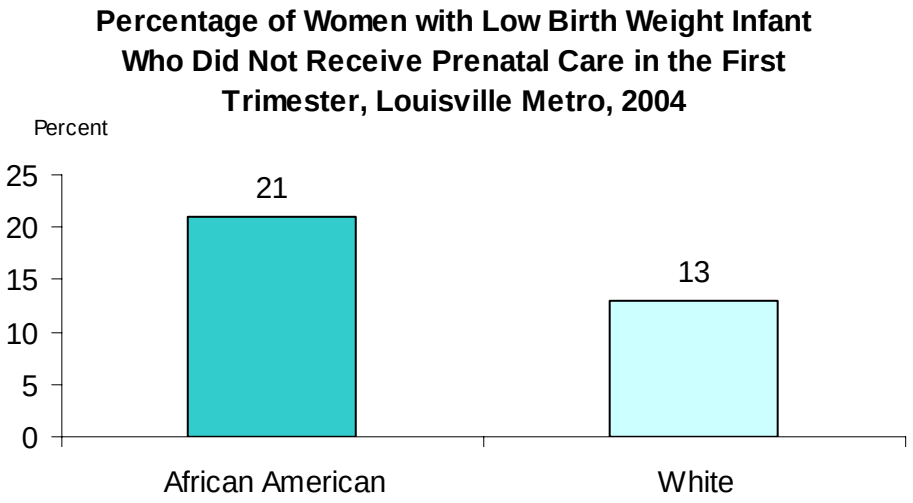



Approximately 29% of the women who gave birth to a low birth weight infant reported smoking during pregnancy.

**Smoking Status of Mother for Low Birth Weight Infants Louisville Metro, 2004**



Of the 918 women who gave birth to a LBW infant, 15.7% did not receive prenatal care in the first trimester. Of the African American women with a LBW infant, 21% did not receive prenatal care in the first trimester. This compares to 13% for White mothers with LBW infants.



## Prenatal Care

### *What is it?*

"Pre" means before and "natal" means of, relating to, or present at birth. Prenatal care is health care and other services available to pregnant women as a fetus develops within her uterus. Adequate prenatal care is usually defined as starting care in the first three months (first trimester) of pregnancy with at least nine (9) visits for women giving birth to full-term infants (after 40 weeks of pregnancy).[8]

### *Why is it important?*

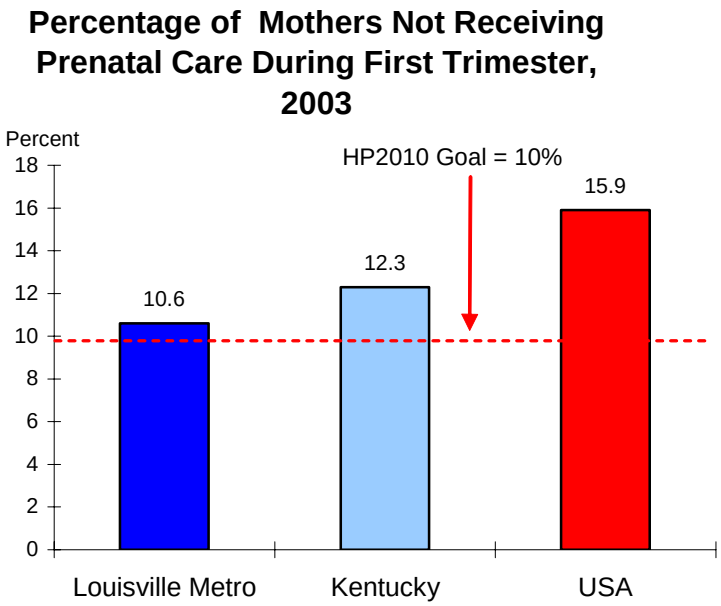
Adequate prenatal care is important because the health care provider has the chance to find problems early so they can be treated as soon as possible, improving the birth outcomes. The purpose of prenatal care is to decrease the number of infants born too early (preterm birth) and too small (low birth weight) and to prevent mother and infant sickness and death. Timely prenatal care can help in the identification of risk factors such as hypertension, diabetes and sexually transmitted diseases that may endanger the mother and fetus.

Getting early and regular prenatal care is one of the best ways to promote a healthy pregnancy. Prenatal care often provides an opportunity for education and counseling about how to handle different aspects of pregnancy, nutrition, physical activity, what to expect from the birth itself, and basic skills for caring for the infant.

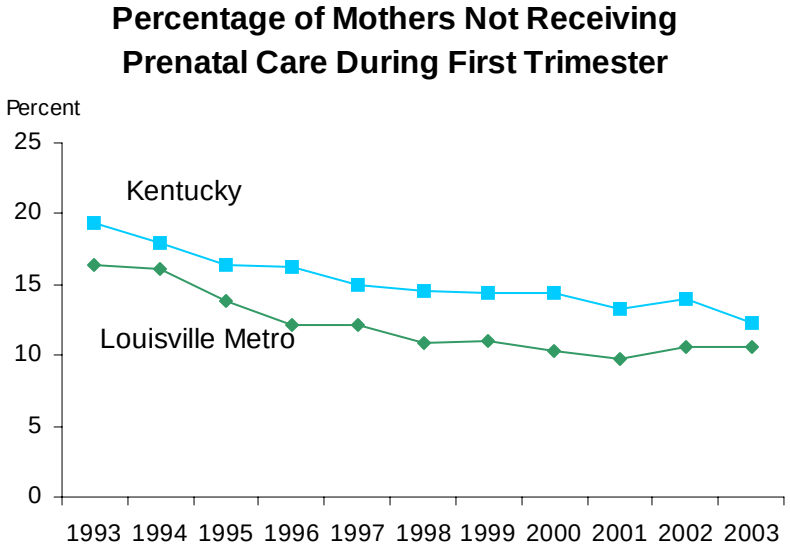
### *What is Louisville Metro's status?*

In 2004, Kentucky adopted a revised birth certificate form. As a result, prenatal care data from 2004 and subsequent years are not comparable to prenatal care data from before 2004.[9] Therefore, we do not include 2004 prenatal care data in this report.

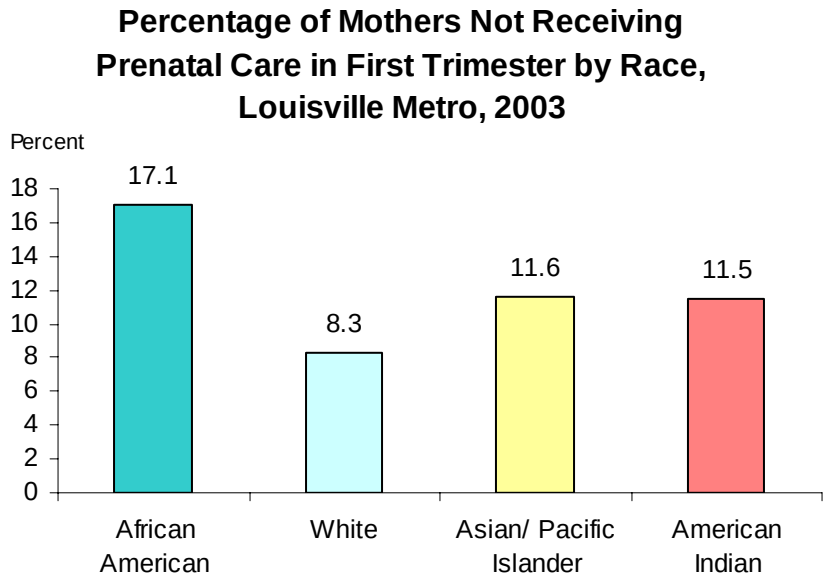
In 2003, 10.6% of the women who gave birth did not receive prenatal care during the first trimester. This percent slightly exceeds the Healthy People 2010 goal of not more than 10% failing to receive prenatal care in the first trimester. Kentucky and the United States both have a higher percentage of mothers not receiving prenatal care in the first trimester (12.3% and 15.9%, respectively).



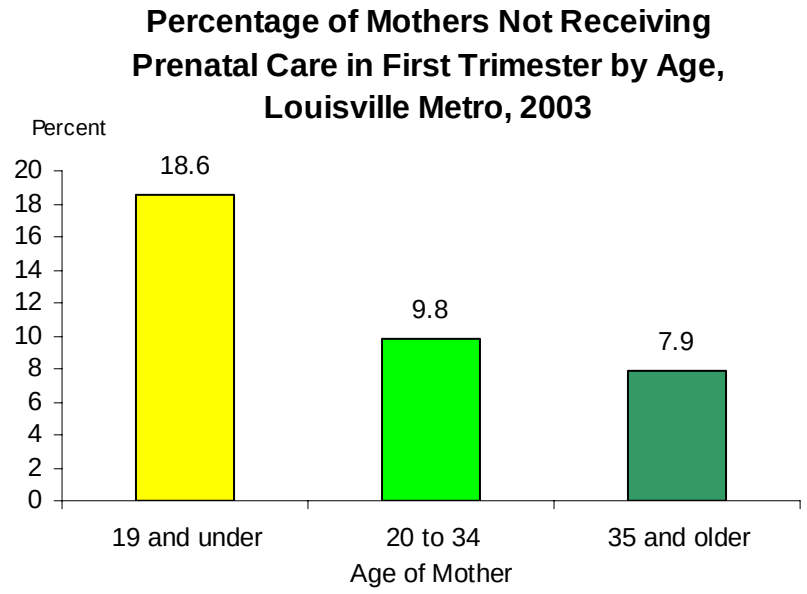

Since 1993, a gradual decline is seen in the percent of mothers not receiving prenatal care in the first trimester in Louisville Metro, indicating an increase in the percent of mothers receiving such care. The proportion of pregnant women not receiving prenatal care in the first trimester decreased from 16.4% in 1993 to 9.8% in 2001. But a slight increase to 10.6% was seen in Louisville Metro in 2002 and 2003. A similar trend was observed at the state level but the percentage of mothers not receiving prenatal care in first trimester was consistently higher in Kentucky and the United States compared to Louisville Metro.



In 2003, Whites had the lowest rate of late or no prenatal care (8.3%), followed by American Indian (11.5%) and Asian/ Pacific Islanders (11.6%). The African American women had the highest rate of 17.1% not receiving prenatal care in the first trimester.




Teenagers, nineteen years of age or younger, were least likely to receive prenatal care during the first trimester, with 18.6% not receiving such care. Women 35 years of age and older were most likely to receive timely prenatal care, with only 7.9% not receiving care during the first trimester.



## Birth to Teens

### *What is it?*

The teen birth rate is defined as the number of live births per 1,000 women 15 to 19 years of age. Teen pregnancy rates are different than teen birth rates. The pregnancy rate is based on the number of live births, induced abortions and fetal deaths combined.[10]

### *Why is it important?*

Teen pregnancy has consequences for both the mother and child. Teen mothers face higher risks of complications in childbirth and their infants are at greater risk for preterm birth, low birth weight, death during the first year of life, and developmental problems. Pregnancy at such an early age can interfere with a young woman's development and limit her education and life opportunities.

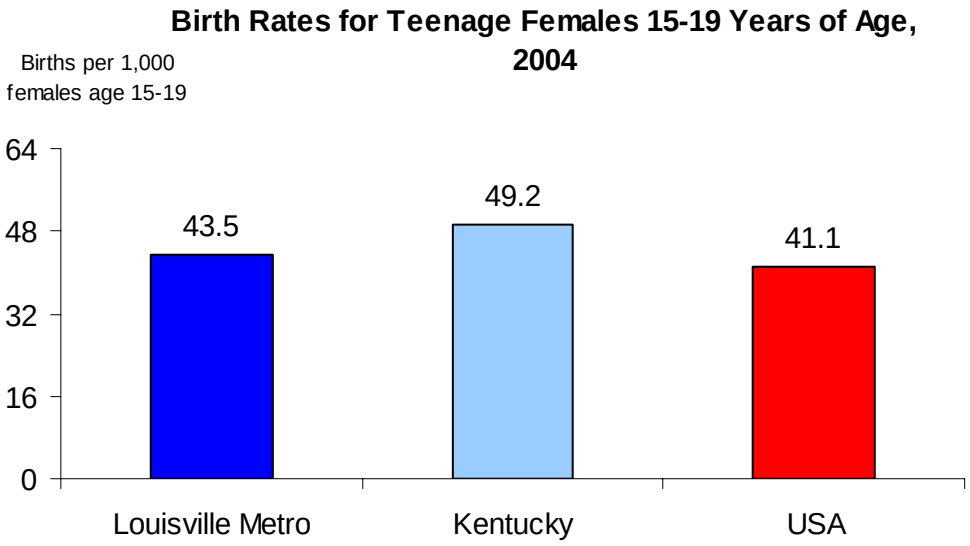
Teen parenthood is a predictor of future economic hardship for both parent and child. In addition to poor pregnancy outcomes, these young mothers are less likely to finish high school and are far more likely to be poor than those giving birth for the first time at later ages. Children born to teen mothers are more likely to be poor as children and adults.

The birth rate for teenagers 15 to19 years of age has steadily declined in the United States from 61.8 births per 1,000 females age 15 to 19 in 1991 to 41.1 births per 1,000 in 2004.[9]

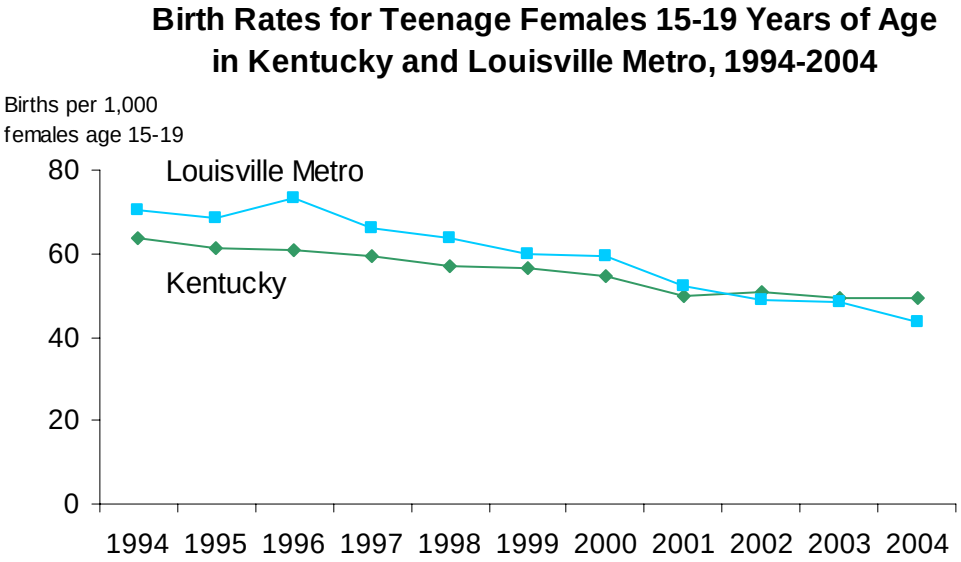
There are some potential risk factors for teenage women who become pregnant. They include early dating behavior; early use of alcohol, tobacco, and/or other drugs; dropping out of school; fewer friends; less participation in school, family, or community activities; perceiving little or no opportunities for success; living in a community or attending a school where early childbearing is common and viewed as normal rather than as a cause for concern; growing up under impoverished conditions; having been a victim of sexual abuse or assault; or having a mother who first gave birth before twenty years of age.[10]

### *What is Louisville Metro's status?*

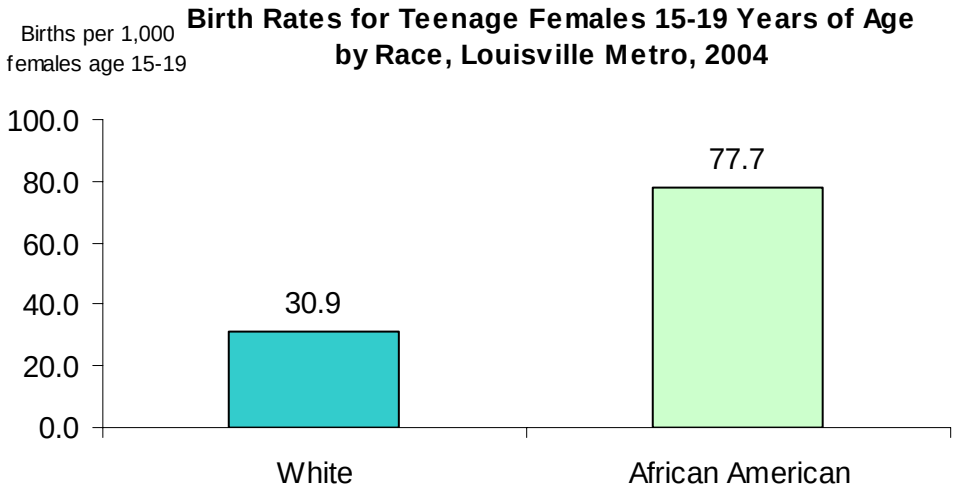
In 2003, the birth rate for teenage females age 15 to 19 years was 43.5 births per 1,000 females age 15 to 19 in Louisville Metro, which was lower than the state rate of 49.2, but higher than the nation's rate of 41.1.




Similar to the trend seen in the United States, the teen birth rate among 15 to19 year olds in Louisville Metro declined from 1994 to 2004. In Louisville Metro during this time period the teen birth rate has declined forty percent since the 1996 peak of 73.3. The trend seen in the graph below shows that the teen birth rate in Louisville Metro declined lower than and remained lower than Kentucky rate in 2002.



African American females ages 15 to 19 years had the highest teen birth rate in Louisville Metro (77.7 per 1,000). This rate was over two times higher than White females (30.9). The birth rate for African American females ages 18 to19 years was 122.5 per 1,000 population. This trend is different compared to the entire nation where there has been a striking decline in the birth rates in the African American teenagers.[9]



*What are we doing?*

Louisville Metro Public Health and Wellness (LMPHW) has the following programs that provide services for women, infants and children.

**HANDS** (Health Access Nurturing Developing Services) is a voluntary, intensive home visitation program designed to assist parents at critical development points during their child's first two years of life. It targets first time parents, from the prenatal period to approximately two years after delivery. The program's goal is to assist with child development, parenting skills, health services and other needed resources.

**Healthy Start** is a federally funded initiative that seeks to reduce infant mortality (the rate at which children die before their first birthday) in targeted areas of west Louisville. Infant mortality rates in these areas range higher than those of Louisville Metro as a whole. The main objective of this initiative is to improve health and social services care coordination for childbearing women and their families living in the project area by providing culturally competent case management services. Healthy Start aims to improve pregnancy outcomes to pregnant women by making sure that women receive adequate prenatal care and support during their pregnancy.

**First Steps** identifies and coordinates the care of children from birth to three years of age, who have a developmental delay or a specific medical condition that causes a developmental delay.

**Healthy Child Care** program provides consultation and classes, by LMPHW Registered Nurses, to child-care providers, children and parents in Louisville Metro, on health, safety and nutrition issues.

**EPSDT** (Early, Periodic, Screening, Diagnosis, and Treatment Program) is for all children who receive Medicaid benefits. Medicaid members from birth to age 21 years are eligible for EPSDT services. The EPSDT program checks children for medical problems early. These checkups make sure the children are growing up healthy. If a doctor finds a problem, it is treated and monitored. EPSDT experts also monitor the child's immunization status.

**Project Link** provides education, counseling, and case management to women who use alcohol and other drugs while pregnant.

Activities of the LMPHW **Teen Pregnancy Prevention Program** include:

- Offering Family Planning classes at all clinic and partner sites. The Department also provides the Brown Bag Condom Distribution Program to the entire community through various sites. Condoms are distributed on an as-needed basis to community agencies and businesses that have high-volume teen clientele.

- Providing a grant to Louisville Metro Public Schools to provide PSI (Postponing Sexual Involvement) and RTR (Reducing the Risk) curriculum to students. These curriculum assist students in making good relationship choices and healthy choices about their bodies.
- Sponsoring and facilitating a teen board known as STOPP (Students Taking on Pregnancy Prevention) for high school students. This board educates peers on pregnancy prevention and healthy choices.
- Partnering with the Louisville Metro Department for Human Services to provide the TYPE (Teen Youth Program of Encouragement) to area middle school students to promote abstinence and healthy decision-making.
- Partnering with Planned Parenthood to provide training/stipend to youth who go out in the community and educate their peers in pregnancy prevention, healthy decision-making and disease reduction issues.
- Providing funding to the Teen Pregnancy Prevention Intervention Clinic. This clinic provides family planning and other services solely to youth in the Metro area.
- Providing resource materials including pamphlets, videos, an Empathy Belly and Baby Think It Over Dolls.

**Family Planning** provides individuals the information and means to exercise personal choice in determining the number and spacing of their children. LMPHW has five clinics that provide annual Pap smears, clinical breast exams, sexually transmitted disease screening and treatment, various methods of birth control on site and IUD insertion/removal and sterilization by referral. Basic fertility counseling is available by referral. University GYN/OB Foundation, Planned Parenthood of Louisville and Family Health Centers (4 locations) are partners with LMPHW. These partners receive Title X money through the LMPHW to also provide the previously listed services

**Infant Car Safety Seat Programs** includes education and free car seats for parents who cannot afford to purchase their own.

**Clinical services** include services provided in the Women, Infants, and Children Supplemental Nutrition Program (WIC). In addition the Tuberculosis (TB) clinic provides diagnosis with x-ray, surveillance, and treatment services with direct observed therapy. Tuberculosis skin tests are available at all health centers.

The **Office of Vaccines and Immunizations** conducts surveys of all day care facilities and schools in the Louisville Metro annually and conducts on-site audits at the request of and in collaboration with the Kentucky State Immunization Program regarding childhood immunizations.

Mothers who are **Hepatitis B positive** during the perinatal period receive counseling and education regarding their Hepatitis B status. Newborns are administered Hepatitis B vaccine and Hepatitis Immunoglobulin at birth. These infants are followed to ensure that they complete the Hepatitis B series and obtain serology to assess if they have sero-converted.
**Laboratory Services** include but are not limited to diagnostic tests:

- Blood lead level
- Syphilis
- Gonorrhea
- Chlamydia
- Sickle Cell
- Tuberculosis
- Urine toxicology

**PPOR (Perinatal Periods of Risk) Analysis** is an approach promoted by CityMatCH in partnership with CDC (Centers for Disease Control and Prevention), HRSA/ Maternal and Child Health Bureau and March of Dimes to monitor and investigate fetal-infant mortality. The approach divides fetal-infant mortality into four strategic prevention areas: maternal health/prematurity, maternal care, newborn care, and infant health. PPOR mapping of fetal-infant mortality enables communities to identify and further investigate areas in which there are the greatest opportunities for local impact. LMPHW is using the results of this approach to mobilize and focus fetal and infant mortality prevention efforts. The PPOR is being used in concert with other proven tools that are already in place (e.g., Healthy Start initiatives, Child Death Review). Using linked birth-death files combined with fetal death data, communities can identify in which "periods of risk" there are greatest disparities.

**Sudden Infant Death Syndrome** remains a problem in our community. Louisville Metro Public Health and Wellness continues to be involved in supporting the SIDS "Back-to Sleep" campaign. In addition, we have been actively involved in the development of a "Co-Sleeping" educational awareness campaign to be piloted in Louisville Metro to promote safe sleeping habits for infants and prevent infant deaths caused due to co-sleeping.

## *What else do we need to do?*

LMPHW has been working on reinvigorating the Fetal Infant Mortality Review (FIMR) team to research the causes of fetal loss and infant death in the community. When there is a death, a FIMR nurse interviews the family and abstracts information from medical records. Then the FIMR team, composed of medical providers, discusses the findings. Summary and trend information are then provided to a community action team to address appropriate prevention and intervention strategies. FIMR will enhance the PPOR approach to decrease the disparities observed in infant mortality. The Kentucky Department of Public Health is working with the LMPHW to direct increased efforts toward a stronger FIMR program.

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## Causes of Death

Death rates (also called mortality rates) are indicators of a community's health. In the United States, life expectancy improved from 47 years in 1900 to 77.8 years in 2004.[1] In the early 1900s, health issues and deaths were mainly associated with injuries, sanitation, and communicable diseases. The development of vaccines and improved sanitation increased life expectancy. People living longer, their diet, level of activity, and the quality and frequency of seeking preventive health services began to play a larger part in their health status and life expectancy. The focus of public health is shifting to address these risk factors and the management of chronic diseases.

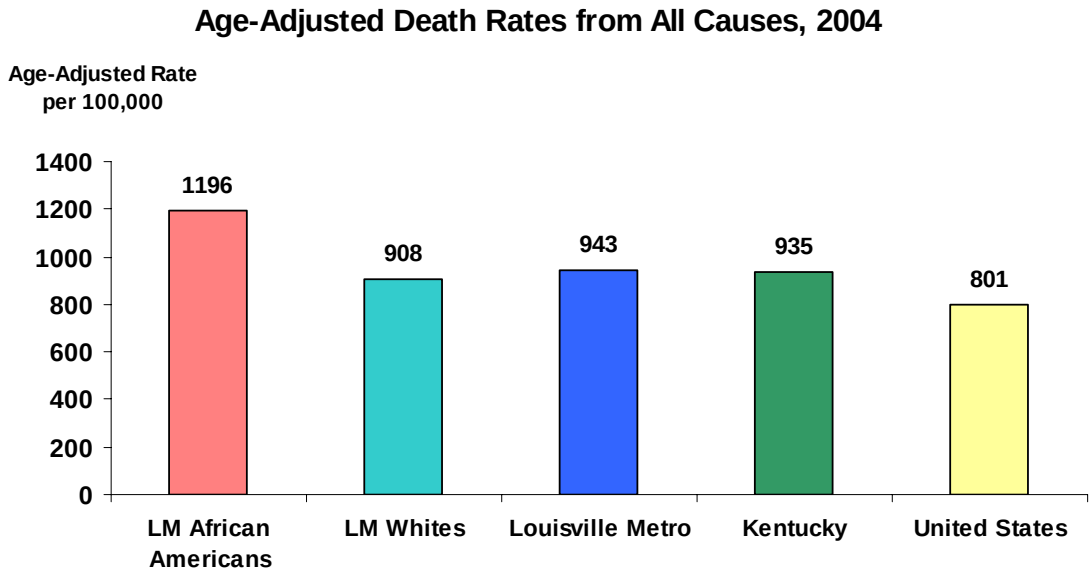
## Death Rates from All Causes

### *Why is it important?*

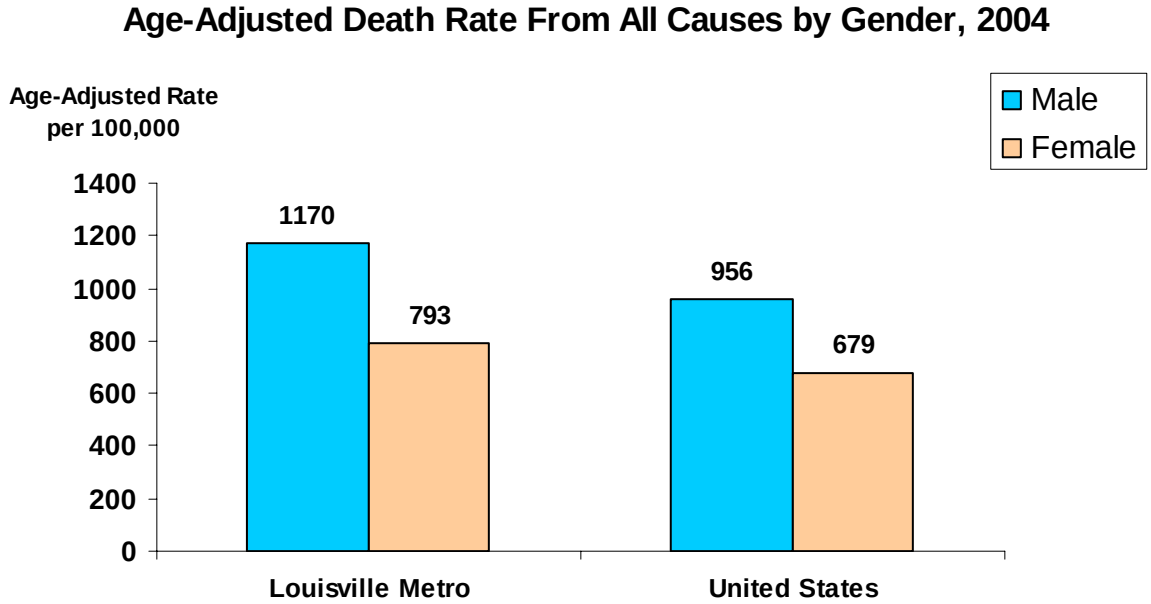
An examination of the rate of death in Louisville Metro is an important way to assess our health status. Comparing our rate to the rate of the United States provides a context for understanding our death rate. Looking at differences by race and gender (health disparities) will help us identify groups who have more difficulty achieving optimal health and will assist us in meeting the health care needs of the entire community.

### *What is Louisville Metro's status?*

The total number of deaths in Louisville Metro in 2004 was 6,794. The age-adjusted death rate from all causes was 943 per 100,000 population. This rate from all causes was slightly higher than the rate for the Commonwealth of Kentucky (935) and substantially higher than the rate for the nation (801 per 1000,000).[1] For Louisville Metro African Americans the age-adjusted death rate from all causes was 1196, which was 31.7% higher than the rate for Louisville Metro Whites.




The age-adjusted death rate for males was 47.5% higher than the female rate (1170 compared to 793 per 100,000 population). Louisville Metro death rates for both genders were higher than the national death rates (956 for males and 679 for females). [1]



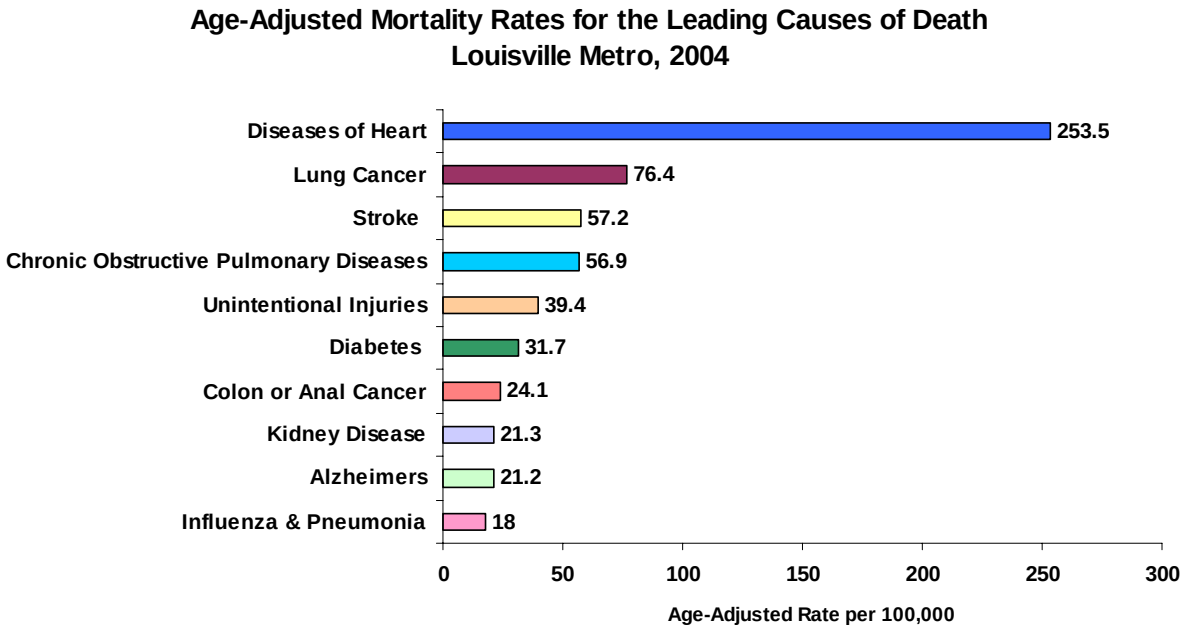
## Leading Causes of Death

*What are they?*

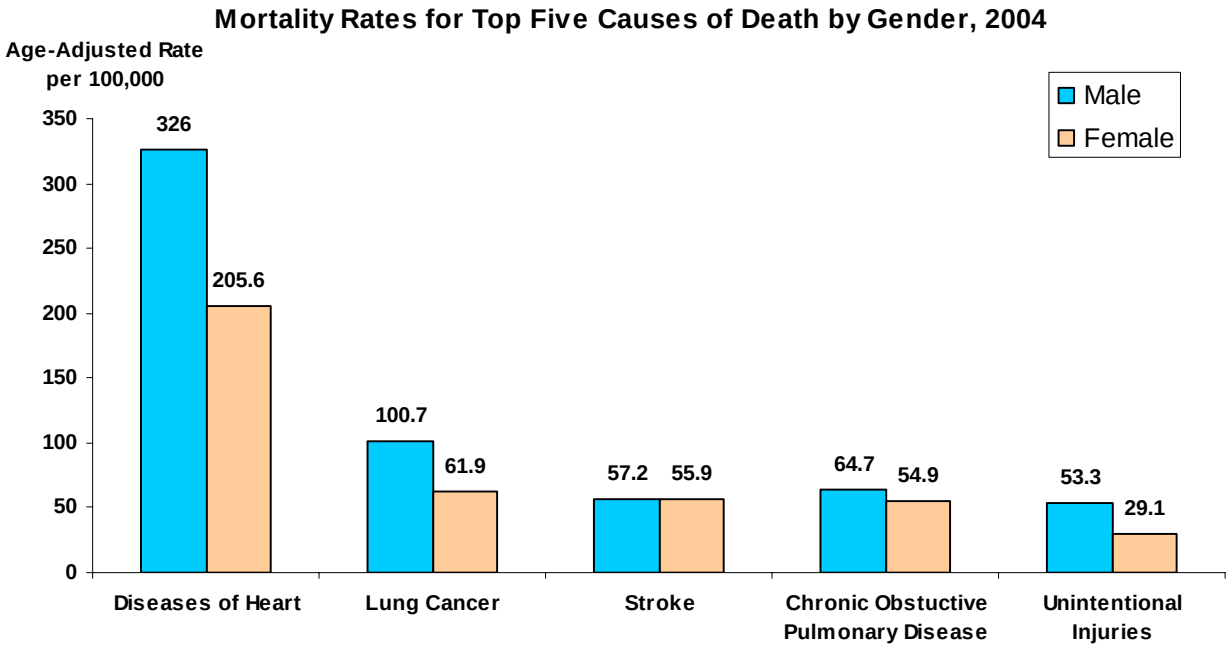
Ranking the causes of death is useful for illustrating the relative burden of death from specific categories. Age-adjusted death rates for commonly used cause of death categories were computed so that comparisons could be made between Louisville Metro and other groups.

*What is Louisville Metro's status?*

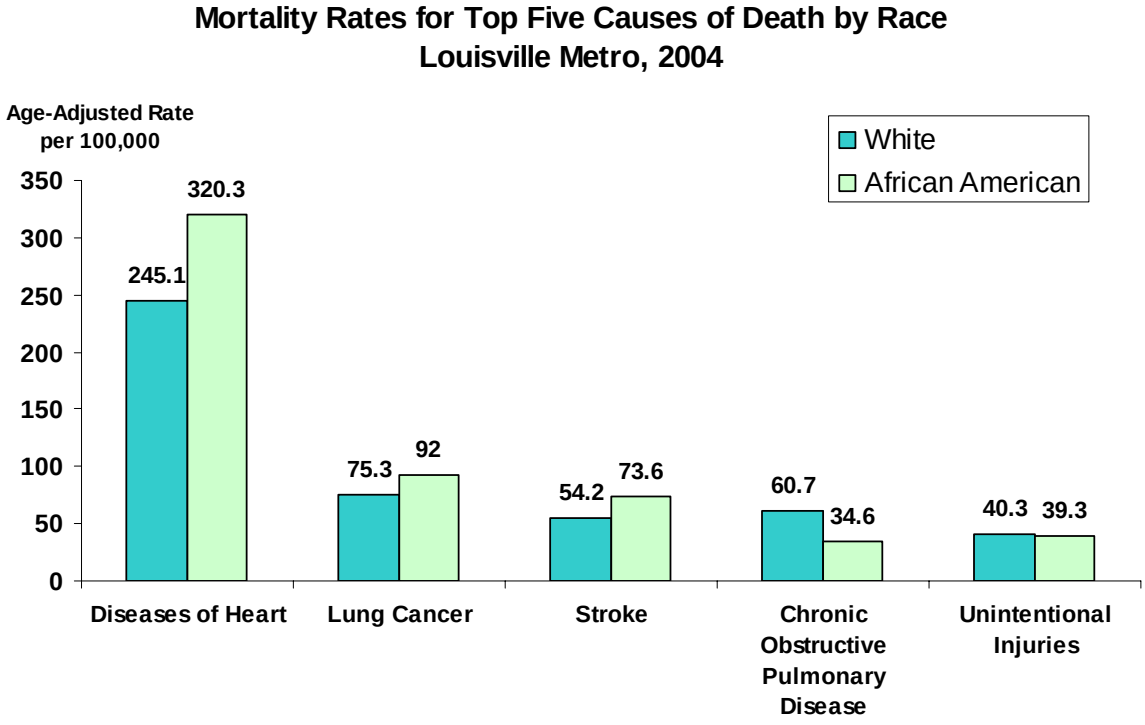
The category of "diseases of the heart" was the number one cause of death in Louisville Metro during 2004, accounting for 26.9% of all deaths. The top four causes of death (diseases of the heart, lung cancer, stroke, and chronic obstructive pulmonary disease) accounted for 47.2% of the deaths. Accidental or unintentional injury deaths ranked fifth followed by diabetes, colon cancer, kidney disease, Alzheimer's disease, and influenza and pneumonia.




Men had higher mortality rates than females for all the top five causes of death in Louisville Metro during 2004. The top five causes of deaths in Louisville Metro and the United States were heart disease, lung cancer, stroke, chronic obstructive pulmonary diseases, and unintentional injuries.



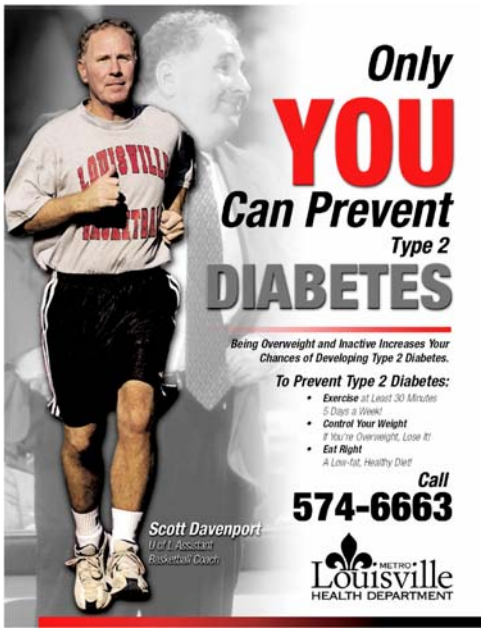

Of the top five causes of death, African Americans had a higher mortality rate from heart disease, lung cancer, and stroke, while Whites had a higher death rate from chronic lower respiratory diseases and unintentional injuries.



## References

1. Miniño AM, Heron MP, Murphy SL, Kochankek, KD. Deaths: Final Data for 2004. National vital statistics reports, 55(19). Hyattsville, MD. National Center for Health Statistics. 2007. http://www.cdc.gov/nchs/data/nvsr/nvsr55/nvsr55_19.pdf

2. Vital Statistics Death File, Jefferson County, 2004.




## Chronic Diseases

This section includes information on the chronic diseases that are the leading causes of death and illness in our community. Louisville Metro Public Health and Wellness (LMPHW) is increasing its preventive efforts toward chronic diseases and associated risk factors.

## Diseases of the Heart

### *What is it?*

Diseases of the Heart include a variety of disorders and conditions including coronary heart disease (CHD), the most common type. Other types of diseases of the heart include hypertensive heart disease, rheumatic heart disease, arrhythmia (irregularity in your heartbeats), and cardiomyopathy (enlargement of the heart).

The word 'coronary' means crown, and is the name given to the arteries that circle the heart like a crown. The coronary arteries supply the heart muscle with oxygen and nutrients. Coronary heart disease develops when one or more of the coronary arteries that supply the blood to the heart become narrowed, impairing the blood flow to the heart muscle. This occurs due to a build up of cholesterol or other fatty substances in the blood vessels of the heart.

### *Why is it important?*

Heart disease is the nation's leading cause of death, with coronary heart disease accounting for the largest proportion. About 12 million people in the United States have CHD.[1] In general the heart disease death rate has been consistently higher in males than in females and higher among African Americans than Whites.[2]

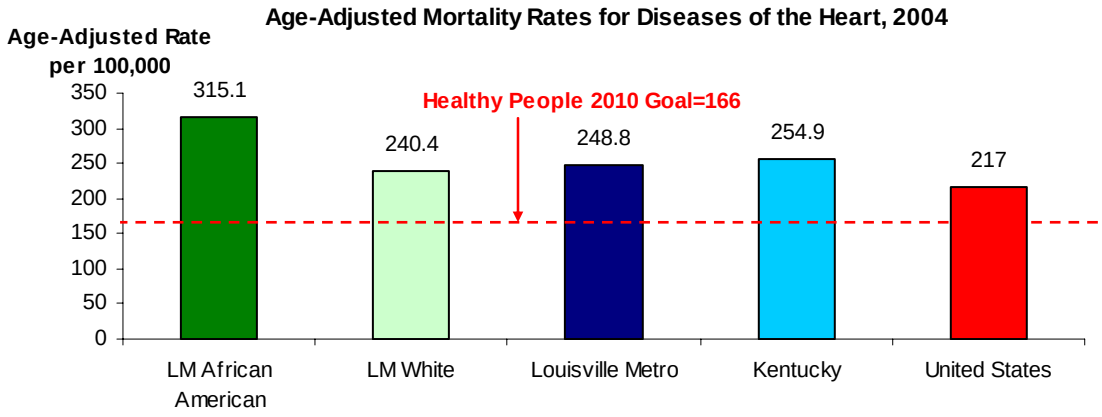
High blood cholesterol and/or triglyceride levels are a major risk factor for coronary heart disease. More than 90 million adults have higher than desirable cholesterol levels. More than 50 million U.S. adults have blood cholesterol levels that require medical advice and treatment.[3]

Being overweight is another major risk factor for CHD. Obesity increases blood pressure, blood cholesterol levels, the risk of diabetes, and other conditions that directly contribute to CHD. High blood pressure is another risk factor that strains the heart and increases wear and tear on the blood vessels, making blockage more likely. The U.S. Surgeon General has stated that cigarette smoking is the most important risk factor of the known modifiable risk factors for CHD. Nicotine in cigarettes speeds up the heart and narrows the arteries, making it harder for blood to flow. Other risk factors include a high fat diet, lack of exercise, and stress.

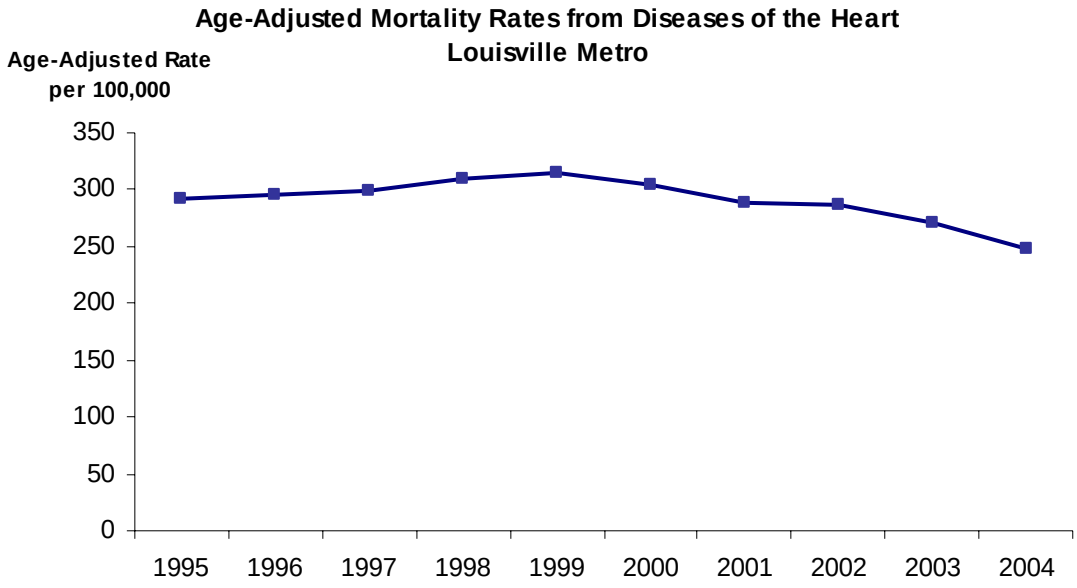
## *What is Louisville Metro's status?*

The age-adjusted rate of death for diseases of the heart in Louisville Metro (248.8 per 100,000) was lower than Kentucky's rate of 254.9.[4] However, the Louisville Metro rate exceeded the Healthy People 2010 goal of no more than 166 deaths per 100,000 and the U.S. rate of 217.

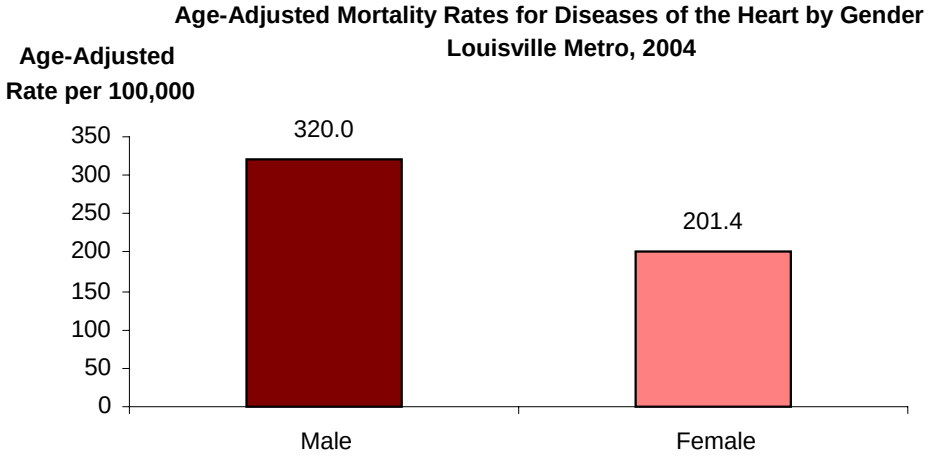
In 2004, the age-adjusted death rate for diseases of the heart among Louisville Metro African Americans (315.1 per 100,000) was significantly higher than other racial group or comparison population. This rate was 31.1% higher than the rate for Louisville Metro Whites and 45.2% higher than the national rate.



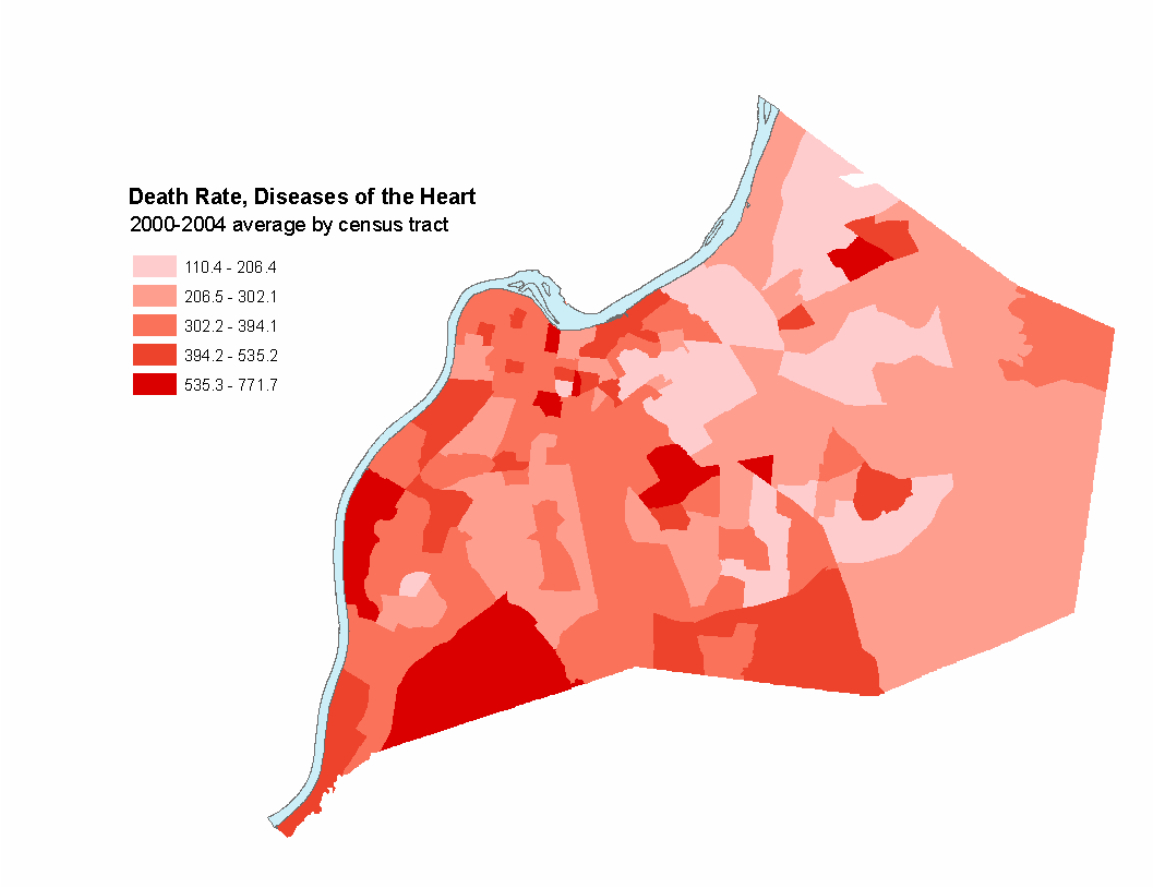
The age-adjusted rate of death for diseases of the heart has remained relatively stable since 1995, with the highest rate of 315.1 per 100,000 occurring in 1999. Since 1999, the death rate has gradually declined to 248.8 per 100,000 in 2004.




The age-adjusted death rate for diseases of the heart was 59% higher among Louisville Metro males than females (320.0 compared to 201.4 per 100,000) in 2004.



The average death rate from diseases of the heart for the five-year period from 2000 through 2004 for each census tract was used to create the map below. The darker the color shade, the higher the death rate. The previous paragraphs of this section contain comparison death rates for diseases of the heart and all rates are age-adjusted rates per 100,000 population in that area.



## Lung Cancer

### *What is it?*

Lung cancer is the uncontrolled growth of abnormal cells in the lung. Cells start multiplying abnormally and form a mass of cells called a tumor. As the tumor grows, it impairs the exchange of oxygen and causes tissue damage.

### *Why is it important?*

Lung cancer is one of the most common cancers in the United States, with more men and women dying from it than any other type of cancer. In 2004, lung cancer accounted for more deaths than breast cancer, prostate cancer, and colon cancer combined.[5]

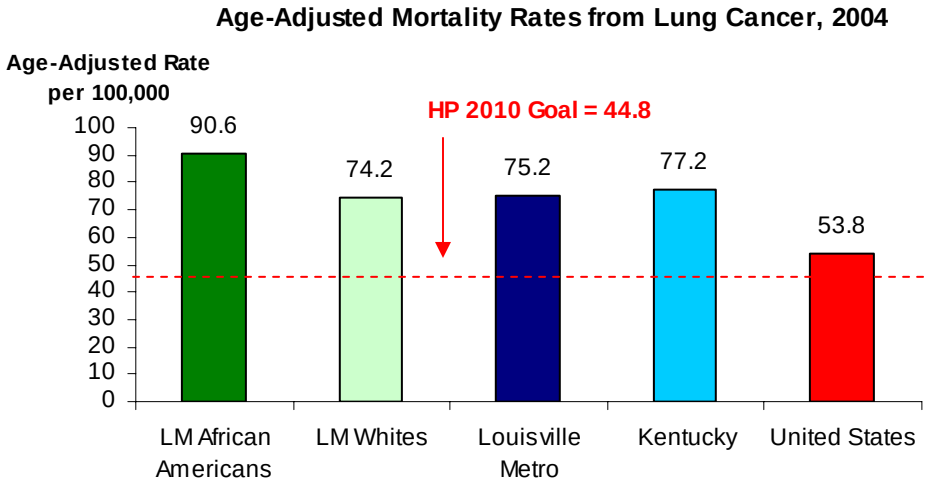
Age-adjusted lung cancer death rates are approximately 22% higher among African American males than White males. Little difference exists in the age-adjusted lung cancer death rates between African American females and White females.

The majority of people who get lung cancer have been cigarette smokers, but not all people who smoke get lung cancer. Many non-smokers also get lung cancer, as they may be in the same environment as someone who is smoking. It is estimated that 50% or more of cancer can be prevented through smoking cessation and improved dietary habits, such as reducing fat consumption and increasing fruit and vegetable consumption.[6, 7]

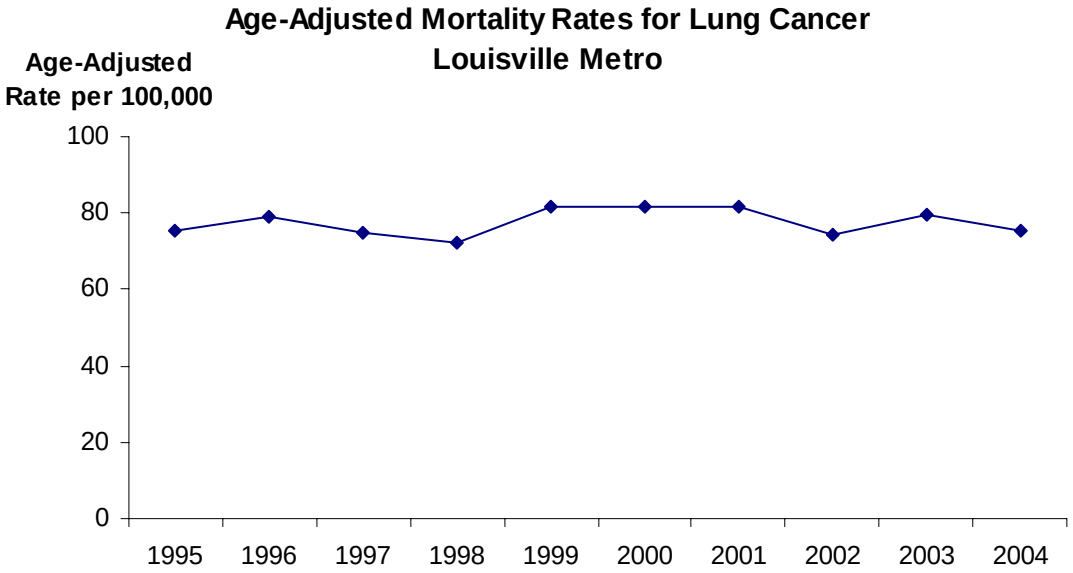
### *What is Louisville Metro's status?*

The age-adjusted lung cancer death rate in Louisville Metro was 75.2 deaths per 100,000 population in 2004. This rate was higher than the national rate of 53.8 and approximately 67.9% higher than the Healthy People 2010 goal of 44.8 deaths per 100,000 population.

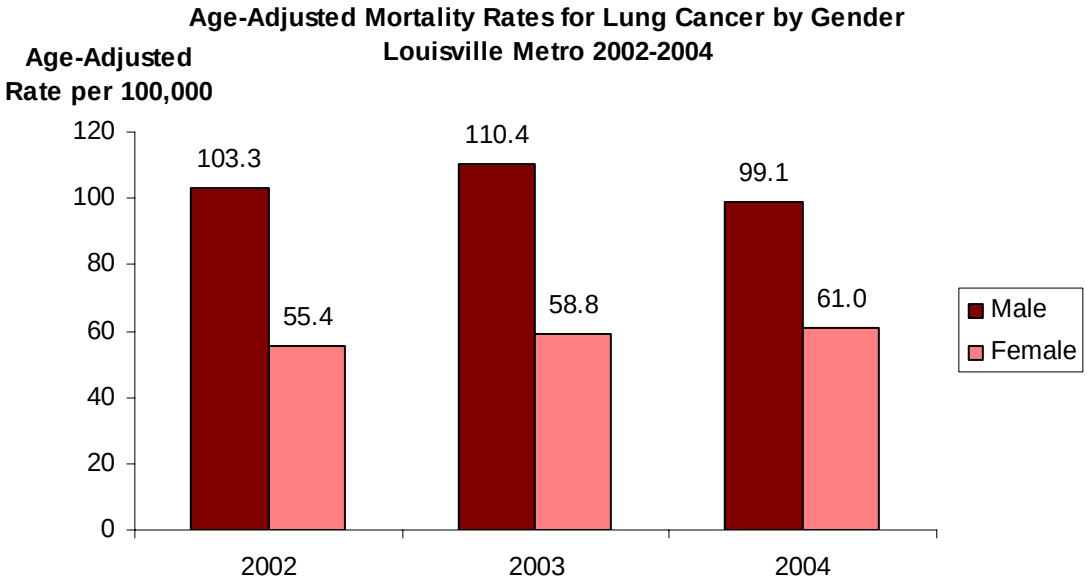
In 2004, the age-adjusted death rate from lung cancer among Louisville Metro African Americans was higher than Louisville Metro Whites (90.6 per 100,000 compared to 74.2 per 100,000).



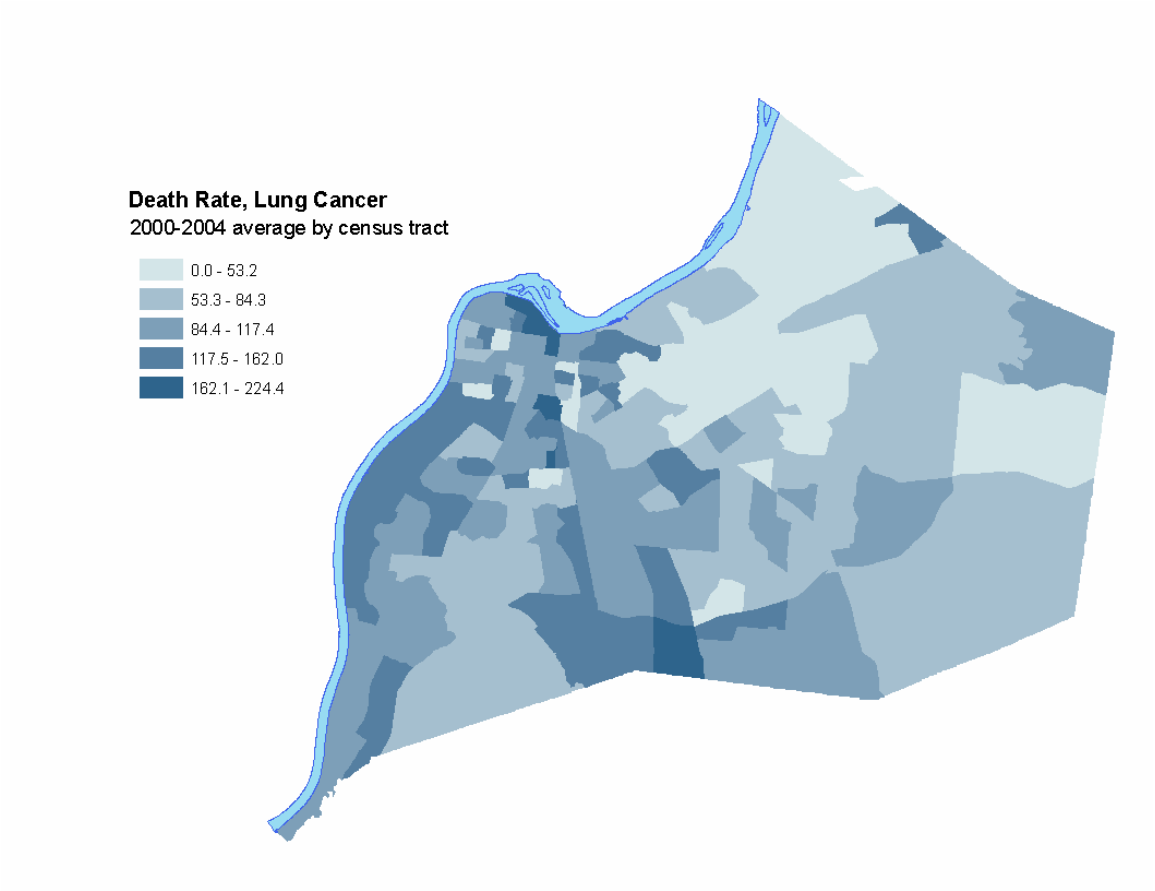

The lung cancer death rate has been fairly consistent from 1995 to 2004. In 1995 and 2004, the age-adjusted death rate was approximately 75.3 per 100,000.



From 2002 to 2004, lung cancer death rates among males were significantly higher than female rates. The 2004 rate for males (99.1 deaths per 100,000) was 62.5% higher than the female rate (61.0 per 100,000).



The average death rate from lung cancer for the five-year period from 2000 through 2004 for each census tract was used to create the map below. The darker the color shade, the higher the death rate. The previous paragraphs of this section contain comparison death rates for lung cancer and all rates are age-adjusted rates per 100,000 population in that area.



## Stroke

### *What is it?*

A stroke, also called a "cerebrovascular accident," results from an interruption of the blood supply to a portion of the brain. A stroke can be due to an insufficient supply of blood from a vessel getting smaller, a blood clot, or an accumulation of fat blocking the vessel. A stroke can also be caused by a vessel rupturing and resulting in bleeding into the brain. This interruption in blood flow decreases the supply of oxygen and other nutrients to the cells in that part of the brain, causing these cells to die.

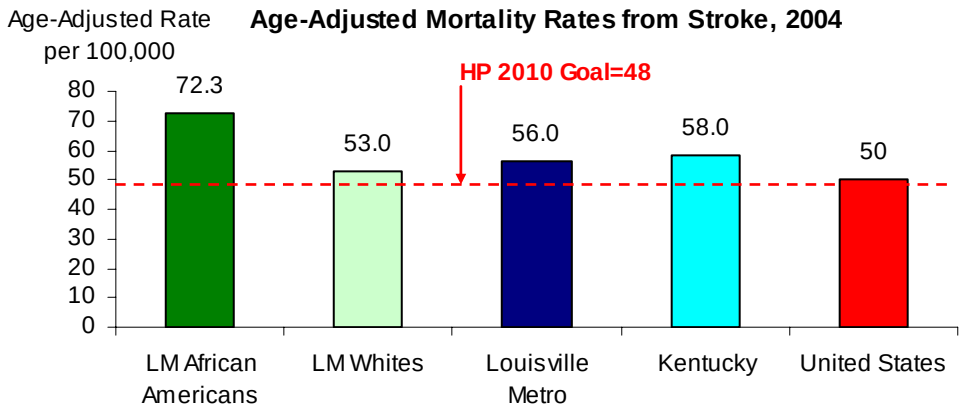
### *Why is it important?*

Stroke is the third leading cause of death in the United States. Depending on the part of the brain affected, damage can result in the loss of speech, vision, movement in an arm or leg, or even death. Anybody can have a stroke, but certain factors increase a person's risk including increasing age, diabetes, hypertension (elevated blood pressure), and increased fatty lipids (cholesterol and triglycerides) in the blood. Other risk factors for stroke are smoking, drinking alcohol, being overweight, lack of exercise, and poor diet.

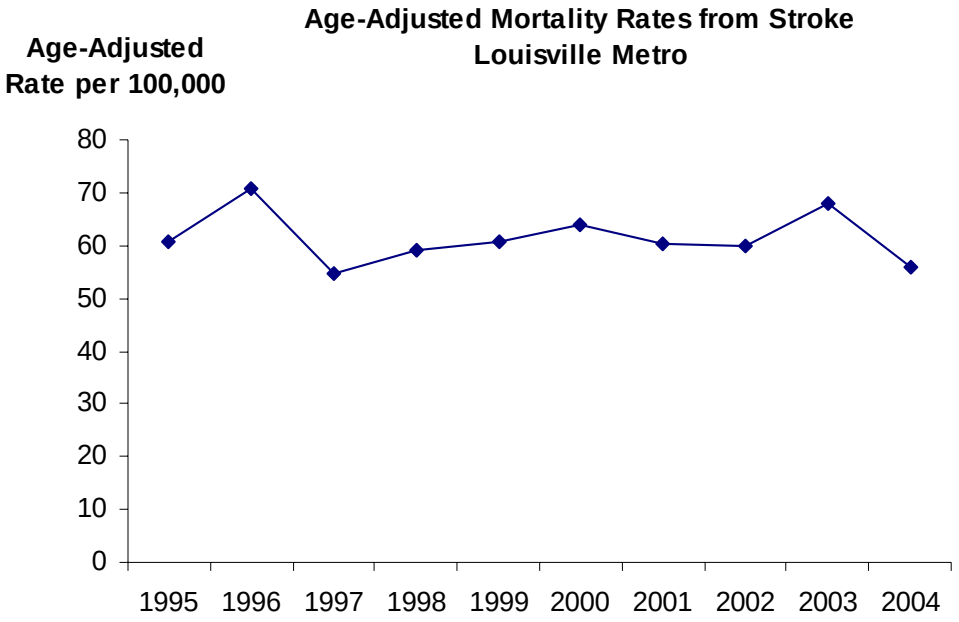
### *What is Louisville Metro's status?*

In 2004, the age-adjusted rate of stroke death was 56 deaths per 100,000 population. This rate exceeded the Healthy People 2010 objective of no more than 48 deaths per 100,000 and the national rate of 50 deaths per 100,000.

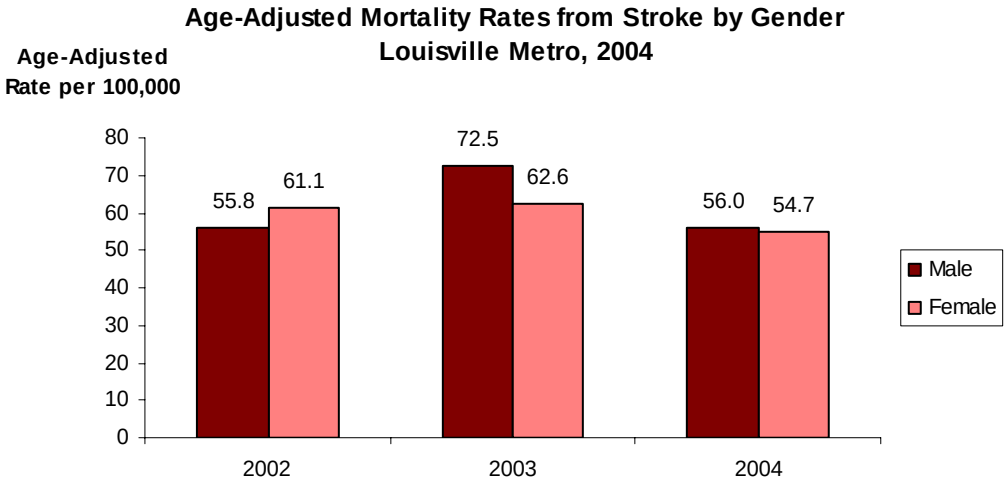
In Louisville Metro, the age-adjusted death rate for African Americans from stroke (72.3 per 100,000 population) was 36% higher than Whites.



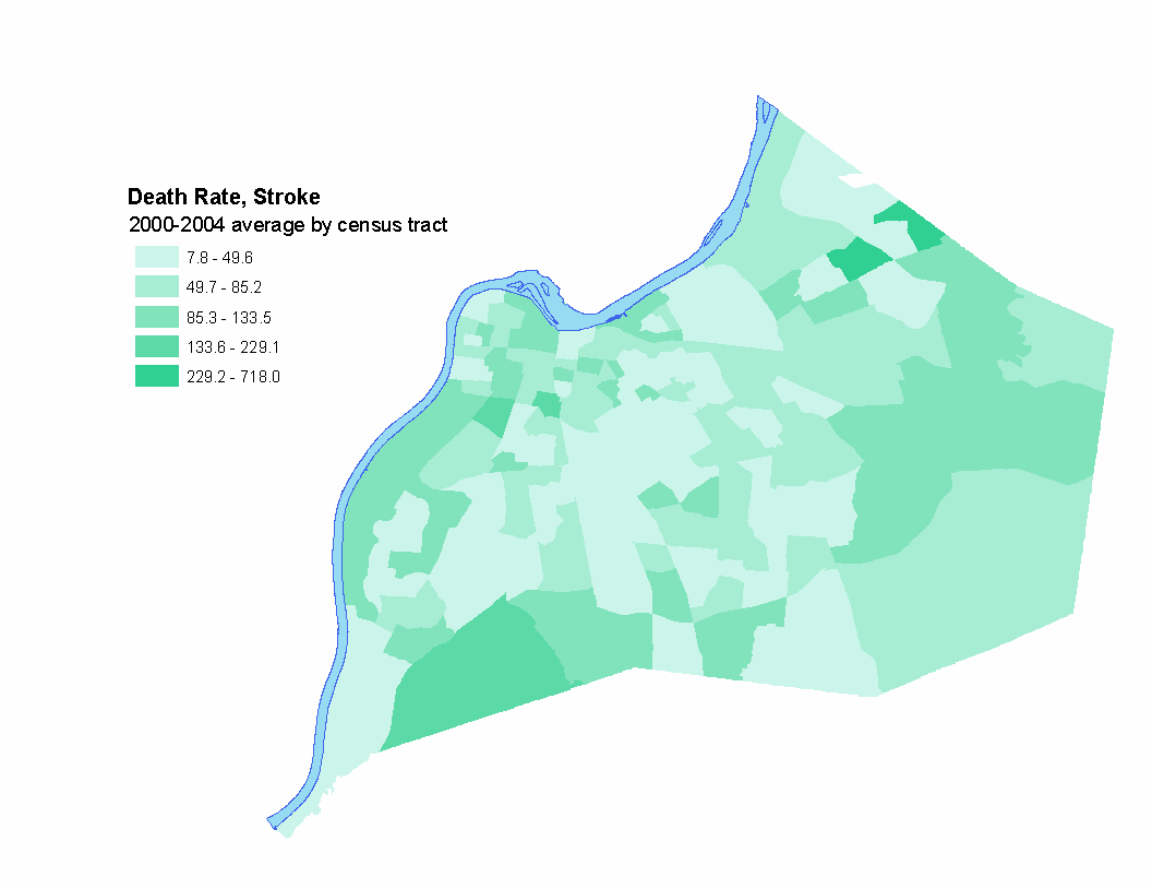
The age-adjusted death rate from stroke in Louisville Metro has varied from 1995 to 2004. However, the rate in 2004 was 21% lower than the previous year (56.0 per 100,000 compared to 67.8 per 100,000).




The age-adjusted stroke death rates among males and females varied from 2002 to 2004. In 2004, the rate was higher among Louisville Metro males than females (56.0 per 100,000 compared to 54.7 per 100,000).



The average death rate from stroke for the five-year period from 2000 through 2004 for each census tract was used to create the map below. The darker the color shade, the higher the death rate. The previous paragraphs of this section contain comparison death rates for stroke and all rates are age-adjusted rates per 100,000 population in that area.



## Diabetes

### *What is it?*

Diabetes mellitus is a group of diseases (type I, type II, and gestational diabetes) characterized by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. Insulin is a hormone produced by the pancreas to regulate blood sugar. Type I diabetes, often called juvenile diabetes, usually starts early in life. Type II diabetes, sometimes called adult-onset diabetes, accounts for up to 95% of all diagnosed cases of the disease. In people with type II diabetes, the pancreas either produces little or no insulin, or the body does not respond appropriately to the insulin that is produced. Gestational diabetes occurs during pregnancy.

### *Why is it important?*

Diabetes poses a significant public health challenge for the United States. Currently nearly 2,200 new cases are being diagnosed each day totaling 800,000 cases per year.[8, 9] Diabetes can trigger eye, heart, and kidney disease, and other life-threatening health conditions. Elderly people with diabetes are more susceptible to these complications. However keeping blood glucose, blood pressure, and cholesterol levels under control can reduce the chance of disability from those complications.

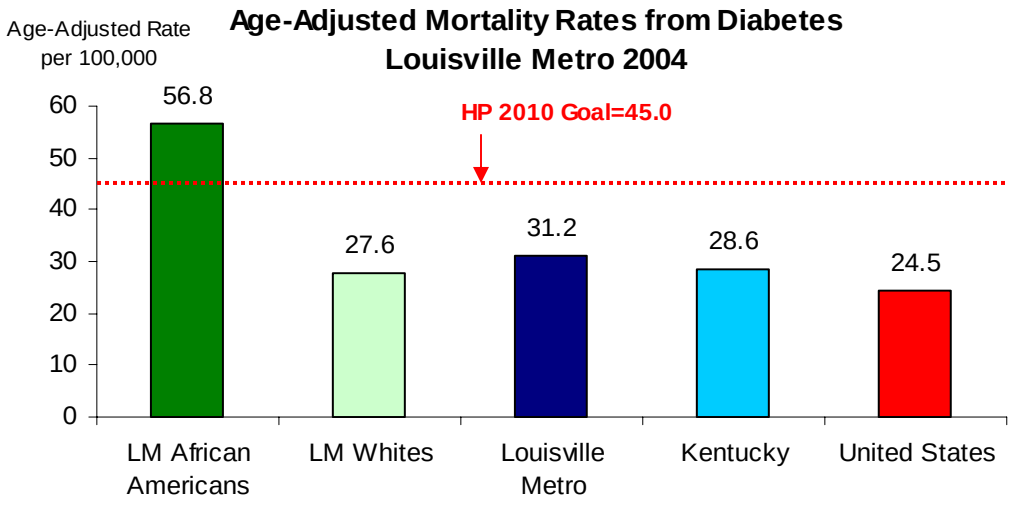
Over the past decade, diabetes has remained the seventh leading cause of death in the U.S., primarily from diabetes-associated cardiovascular disease. The occurrence of diabetes, especially type II diabetes, and the occurrence of associated complications are increasing. The number of persons with diabetes has steadily increased over the past decade. Estimates suggest that almost one-third of the total diabetes cases are undiagnosed.

Several factors account for this increase in the incidence of diabetes. These include behavioral factors such as increased fat consumption, decreased physical activity, and obesity. Several other interrelated factors influence the present and future burden of diabetes, including cultural and community traditions and socioeconomic status.

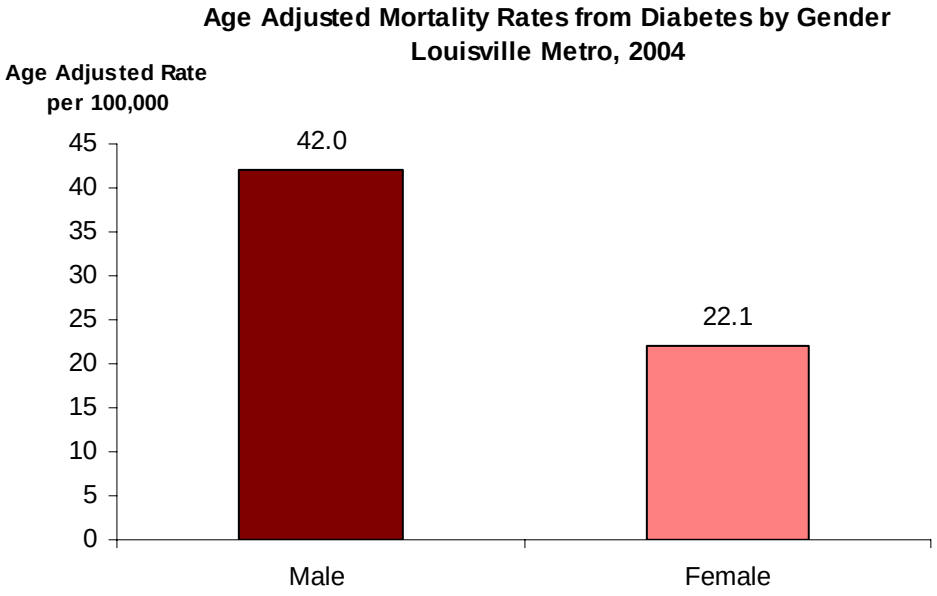
### *What is Louisville Metro's status?*

The age-adjusted diabetes mortality rate was 31.2 deaths per 100,000 population for Louisville Metro in 2004. This rate was higher than the national rate (24.5) and approximately 44% lower than the Healthy People 2010 goal of 45 deaths per 100,000 population.

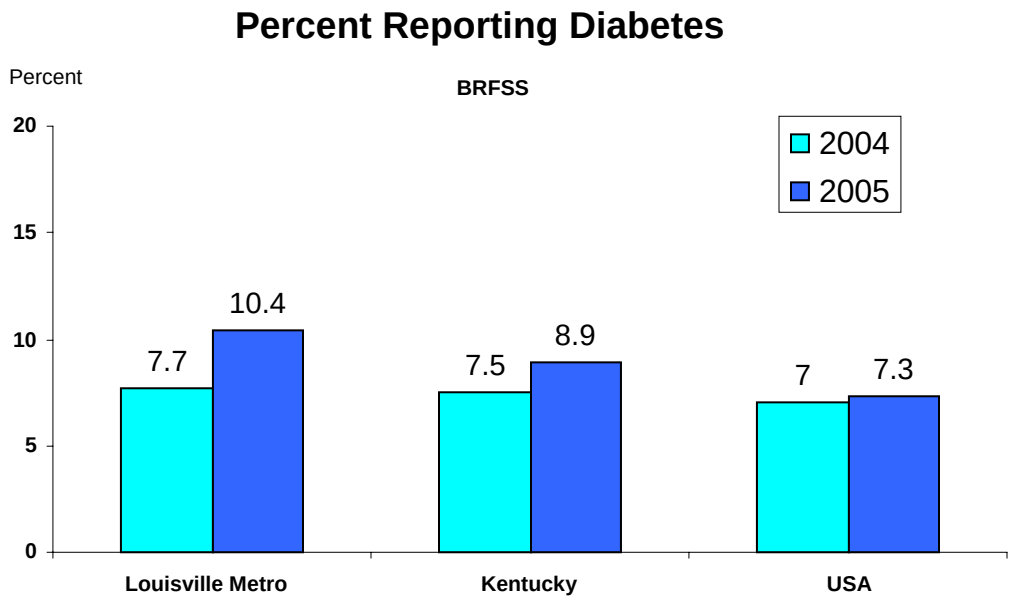
For Louisville Metro African Americans in 2004, the age-adjusted death rate from diabetes (56.8 per 100,000 population) was more than double the rate for Louisville Metro Whites.




The 2004 age-adjusted death rate from diabetes for Louisville Metro's males was 90% higher than the female death rate.



The Behavioral Risk Factor Surveillance System (BRFSS) surveys in 2004 and 2005 asked participants: “Have you ever been told by a physician that you have diabetes?” This measure only counts people who have a conformed diagnosis of diabetes. The percent reporting a diagnosis of diabetes in 2004 was similar for Louisville Metro, Kentucky, and the United States. All three populations had an increase in the percent in 2005, with the largest increase among Louisville Metro residents.



## Asthma

### *What is it?*

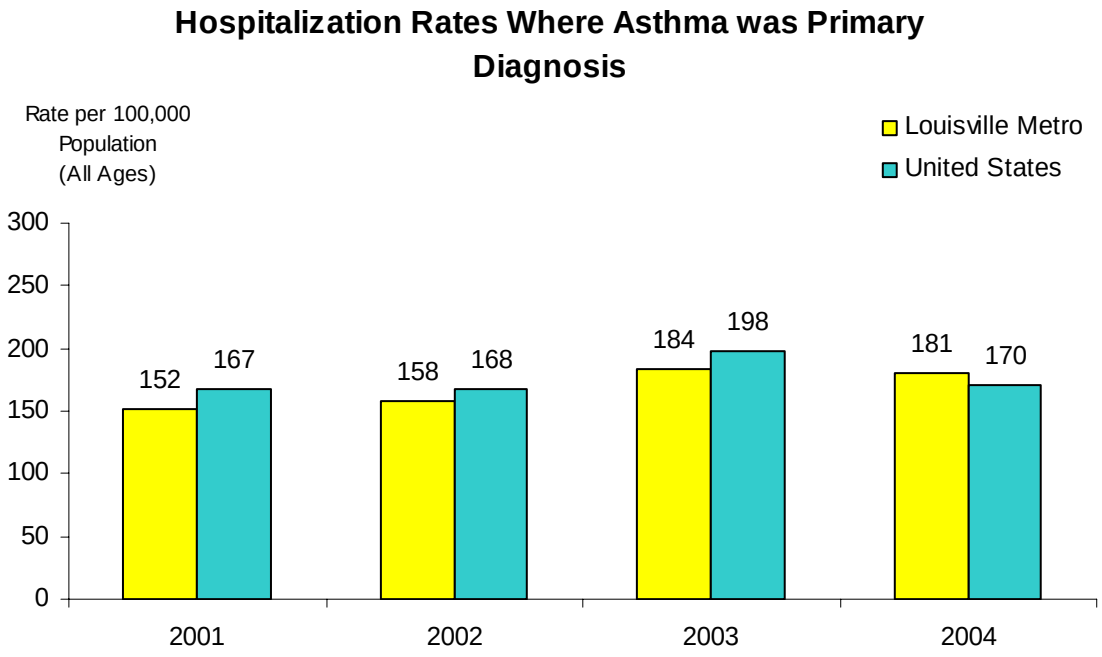
Asthma is a chronic disease of the airways that carry air to the lungs. Asthma causes inflammation of these airways resulting in limited airflow. When this occurs, people can experience episodes of breathlessness, wheezing, and coughing that can be distressing and even fatal. Asthma can be difficult to diagnose because its symptoms are similar to other respiratory diseases. Under the regular care of a physician, asthma can often be diagnosed and managed.[10]

### *Why is it important?*

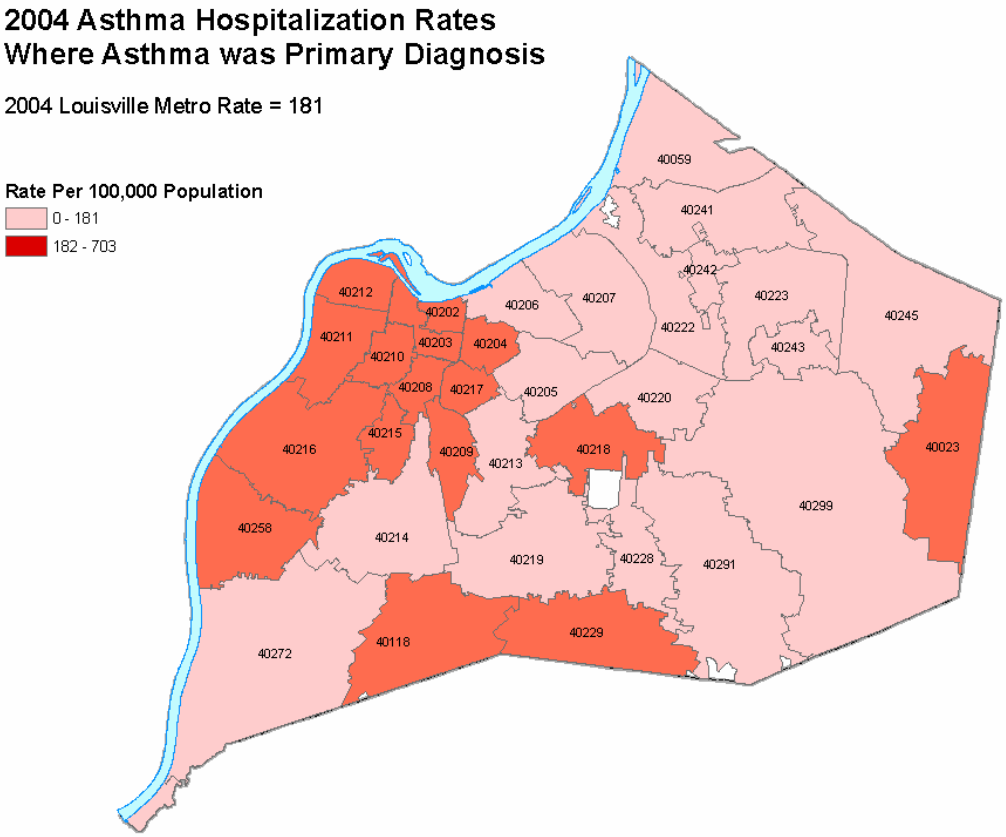
Asthma limits the activity of many Louisville Metro citizens. Childhood asthma causes children to miss school and adults to miss work.

### *What is Louisville Metro's status?*

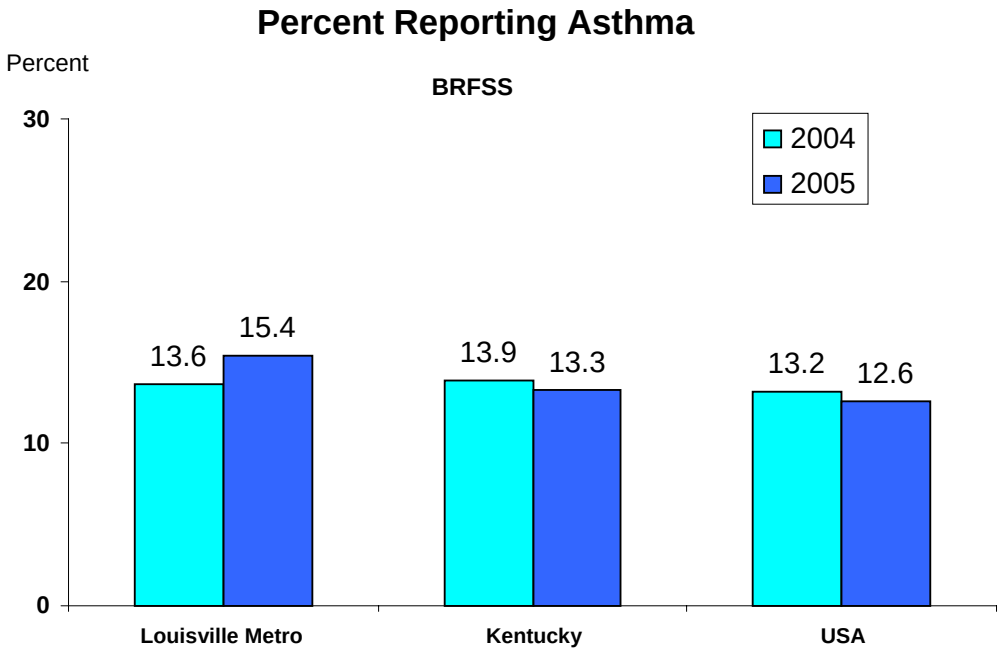
The hospitalization rate in Louisville Metro where asthma was the primary diagnosis has remained fairly constant and similar to U.S. rates during the years 2001 through 2003. However, Louisville Metro had a higher rate than the nation for the first time in 2004.



There are geographical differences in the rates of hospitalization for asthma within Louisville Metro. The western portion of Louisville Metro experiences higher hospitalization rates than the eastern portion. The map below shows the hospitalization rates for admissions in 2004 where the primary diagnosis was asthma by the patient's residence zip code. The lighter shade represents rates at or below the Louisville Metro rate and the darker shade represents rates above the Louisville Metro rate.



The 2004 and 2005 BRFSS surveys asked respondents if a physician or other health professional had told them they have asthma. While all the findings are similar, the percent for Louisville Metro increased in 2005, while the percents for Kentucky and the United States decreased slightly.



## Behavioral Risk Factors

### *What is it?*

All of the chronic diseases discussed in this section have certain risk factors associated with them. Modifications in a person's lifestyle can decrease the risk of some of these factors. Louisville Metro Public Health and Wellness (LMPHW) conducted a Behavioral Risk Factor Surveillance System (BRFSS) phone survey in 2004 and 2005 to gather information about these risk factors for Louisville Metro residents. The standardized questions were approved by the Centers for Disease Control and Prevention (CDC) and used throughout the United States. People were selected for interviews by random dialing of phone numbers and remain anonymous.

### *Why is it important?*

Gathering information on factors that affect health is essential to promoting optimal health for Louisville Metro residents. Identification of these risk factors in the population helps the health department in planning and implementing programs that will improve the health of community residents.

Amount of Exercise

When you are inactive, your blood circulation is less efficient. Moderate exercise can help keep blood pressure and cholesterol levels within normal ranges, thereby reducing the risk of heart disease, stroke, and diabetes. If you eat the same calories in your diet but decrease your level of activity as you get older, your weight will increase. A moderate activity level is needed to maintain a healthy weight.

Cigarette Smoking

Cigarette smoking has been linked to heart attacks, strokes, artery disease in the legs, and lung cancer. Nicotine raises blood pressure and the cigarette smoke thickens the blood, making it more likely to clot. The carbon monoxide reduces the amount of oxygen the blood can carry to the brain. Secondhand smoke also can result in the same problems for the person inhaling the smoke from smokers. Giving up smoking is definitely a lifestyle modification that will reduce the risk of these chronic diseases.

Obesity and Overweight

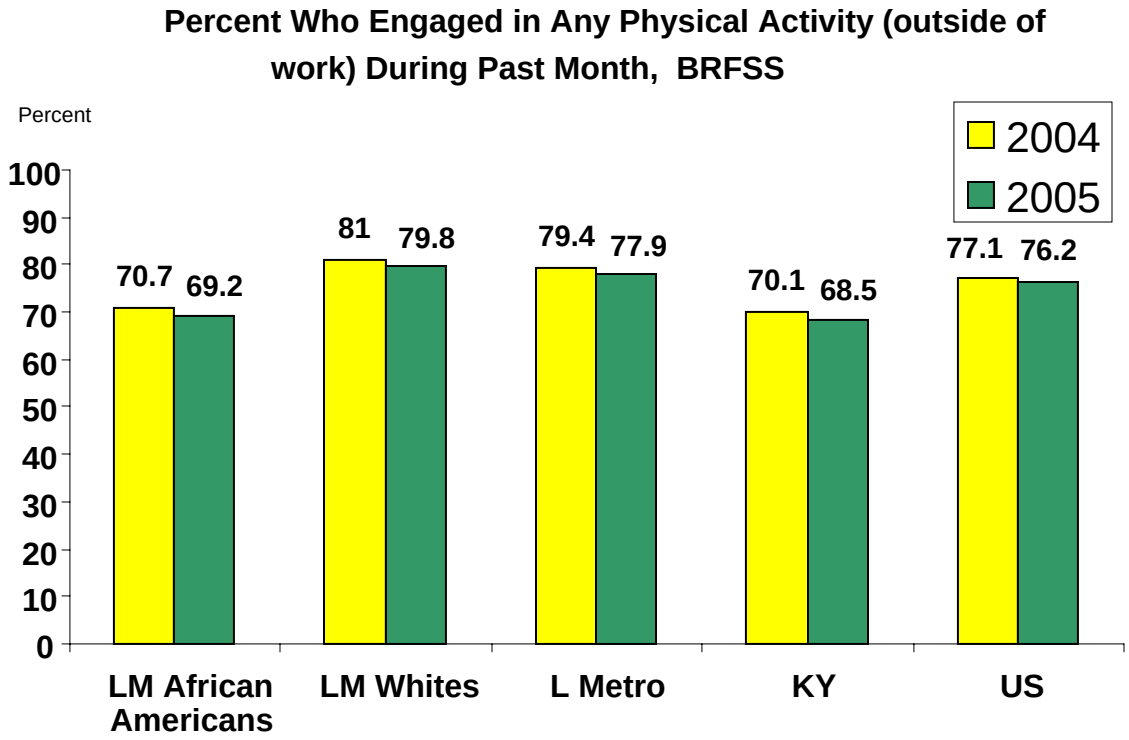
Being overweight increases your risk of having a stroke, heart disease, high blood pressure, and type II diabetes.

Nutrition

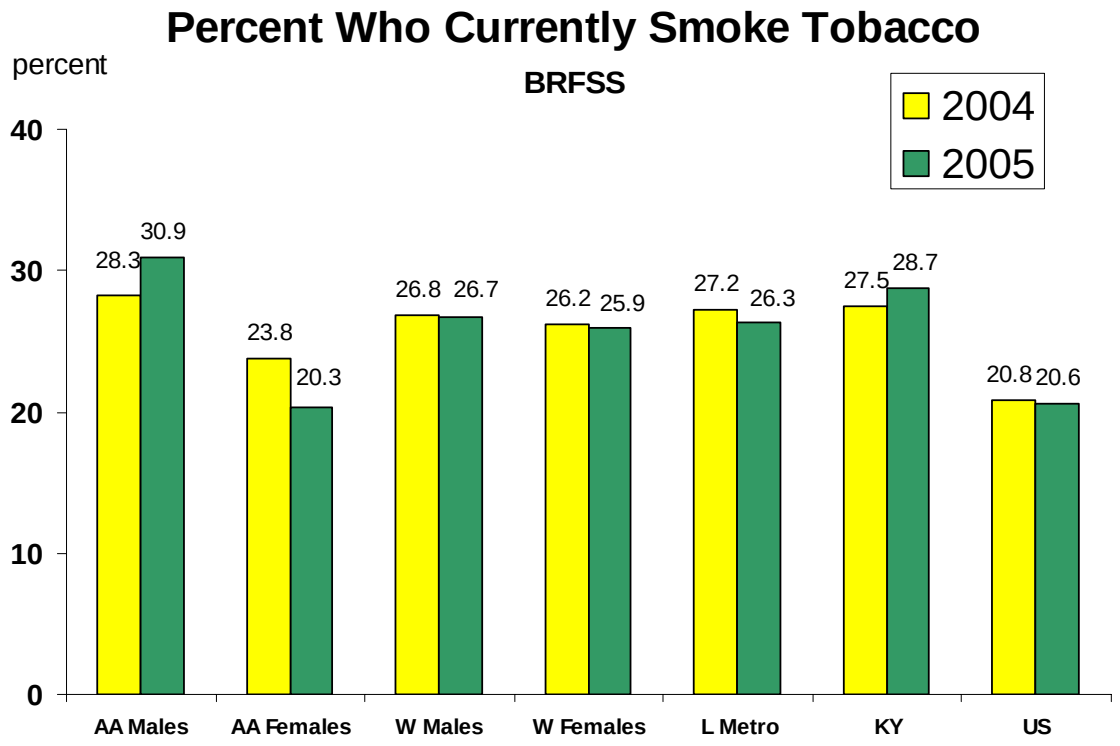
A diet high in fat and cholesterol increases the risk of heart disease, stroke, and diabetes. For optimal health, it is recommended that you eat five or more servings of fruits and vegetables every day.

*What is Louisville Metro's Status?*

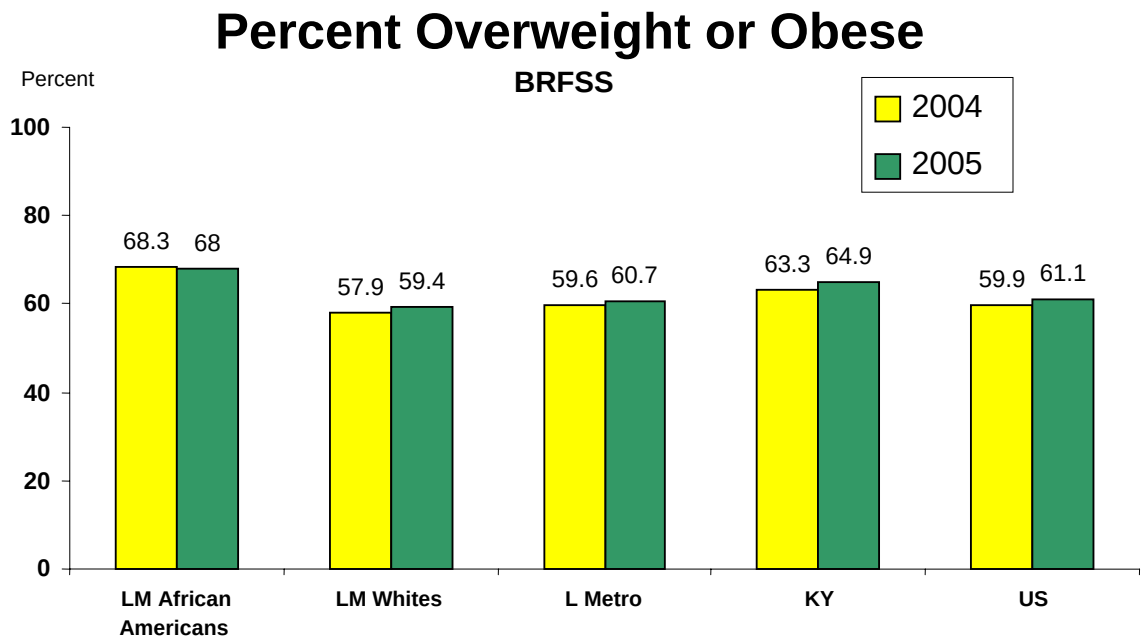
The BRFSS survey asked respondents if during the past month they participated in any physical activities or exercise such as running, golf, gardening, or walking other than their regular job duties. At 79% in 2004, the proportion of Louisville Metro residents who reported physical activity was higher than the Kentucky and national percents. Although there was a slight decrease from 2004 to 2005 for all three populations, the percent reporting any physical activity remained fairly stable. In Louisville Metro, the percent for Whites has remained approximately 15% higher than the percent for African Americans.



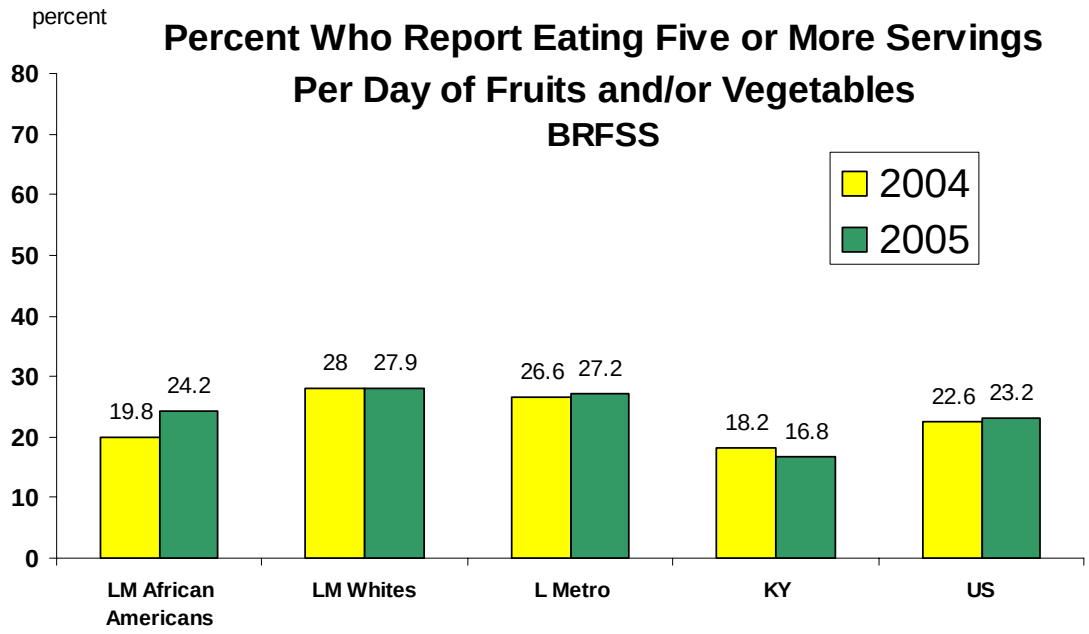
The BRFSS survey always includes questions about smoking cigarettes. Louisville Metro and Kentucky have been consistently higher than the percent who currently smoke cigarettes in the U.S. However, the percent in Kentucky increased from 2004 to 2005 while the percent in Louisville Metro decreased. In 2005, Louisville Metro African American males reported the highest percentage who currently smokes cigarettes.



The risk factor survey asked participants for their height and weight to compute a Body Mass Index (BMI). The BMI is a calculated index that attempts to normalize weight for height as an indirect measurement of body fat. A BMI of 25 to 29 is classified as overweight and a BMI of 30 or more indicates obesity. Approximately 60% of Louisville Metro residents reported heights and weights that converted to a BMI indicating they were overweight or obese. This rate was lower than the rate for Kentucky and similar to the national rate. African Americans were reported to be more likely overweight or obese when compared to Louisville Metro Whites.



The percent of people in Louisville Metro who reported eating five or more servings of fruits and vegetables each day was greater than the percentages for Kentucky and United States. However, the data reflect that the majority of the people are not eating the recommended daily amount of fruits and vegetables. Proper nutrition is important to an individual's ability to prevent disease and complications from existing disease. It is a universal problem in our community and nation that the majority of the adults are not eating a diet needed to maintain optimal health.



## *What are we doing?*

The Chronic Disease Prevention Team of Louisville Metro Public Health and Wellness works with community partners to provide leadership, support and training to empower Louisville Metro residents to adopt healthy behaviors and reduce the risk of chronic disease. Specific programs are listed below:

Nutrition

- Support Mayor's Healthy Hometown Movement (MHHM) and the Take Charge Challenge (work site wellness program) with technical assistance and educational materials related to nutrition topics
- Work with "Healthy Eating by Design" and the Community Farm Alliance to promote healthy eating via farmer's markets and related venues
- Conduct four Weight Control Series (4 meetings plus a follow-up screening)
- Provide training targeted to worksites or other groups on:
    - Starting a Weight Support Group
    - Offering Low-Calorie Tasting Opportunities ("Lite Bites")
    - Promote 5 a Day through providing a fruit basket in employee snack room; purchase fruit and sell by honor system; train other worksites on this program
- Make available via download from website or hardcopy: "Week of Healthy Menus: 1200, 1400, 1700, 2000 Calories" booklets, which also include a simple tool to estimate one's calorie level for weight loss and other tools
- Provide educational materials at health fairs and other events; topics focus on weight control and nutrition (especially "5 a Day") themes; "Lite Bites" Cookbook also available
- Loan displays for health fairs or other educational events
- Provide professional and public education on weight control and nutrition, focusing on 5 a Day
- Conduct "Sisters Together Move More, Eat Better" nutrition education programs for women of color
- Provide technical support for the nutrition education component of Presbyterian Community Center's "Get Up, Get Out, Get Moving About" program for residents of Shelby Park and Smoketown

Diabetes

- Conduct Diabetes Self Management Series seven times each year at locations throughout Louisville Metro
- Conduct diabetes social marketing campaign, utilizing billboards, bus shelters, newspaper, and radio advertisement
- Host monthly Diabetes Support Group at Park Duvalle Community Health Center
- Provide professional education programs for nurses, nutritionists and other healthcare providers
- Conduct Primary Prevention Programs for businesses and community groups to help prevent Type 2 diabetes
- Provide diabetes-related information, resources and displays upon request
- Collaborate with the Louisville Urban League to reach and provide education to African Americans with diabetes

- Provide leadership to more than 15 professional groups and coalitions, including Kentucky Diabetes Network, American Association of Diabetes Educators, American Diabetes Association, and Greater Louisville Association of Diabetes Educators

Heart Disease and Stroke

- Align with the Office of Minority Health Staff to develop culturally appropriate strategies to prevent heart disease and stroke in the African American community, specifically addressing systems approaches in healthcare systems, worksites (UPS, UAW/Ford, U of L, Metro Government, etc.), community (MHHM) and schools (Health Promotion Schools of Excellence)
- Continue to implement Search Your Heart, a blood pressure education program in churches with large African-American congregations, by collaborating with the American Heart Association and U of L Hospital
- Implement a variety of education and awareness raising activities (about high blood pressure, high cholesterol, tobacco, physical inactivity, poor nutrition) targeting African Americans through venues such as healthcare systems, worksites, community sites and schools
- Facilitate collaboration and increase knowledge of updated prevention and treatment guidelines among public and private sector partners through a Heart Disease and Stroke Summit
- Develop a mass media campaign that increases awareness of heart disease and stroke prevention and treatment, including warning signs of a heart attack and stroke and the importance of accessing rapid emergency care by calling 911
- Address barriers by collaborating with the Louisville Metro Mayor's Healthy Hometown Movement and other Metro agencies to address high blood pressure and other risk factors for heart disease and stroke

Physical Activity

- Provide leadership to the Mayor's Healthy Hometown Movement via management of the Fitness Roundtable, and staffing for Advisory Council committees
- Support Take Charge Challenge (TCC) worksite wellness program by providing educational materials for the TCC website
- Provide monthly exercise challenges with incentives to LMPHW and its satellite sites; train other worksites on this program
- Post and distribute Point-of-Decision stair and walking prompts at LMPHW and other worksites
- Distribute exercise contracts and logs via trainings and classes
- Represent the LMPHW on KY Physical Activity Committee
- Provide leadership for Jefferson County Health Promotion Schools of Excellence's participation in LMPHW's annual Walk on the Waterfront
- Provide training targeted to worksites on:
    - Starting a Worksite Wellness Committee
    - Ideas for Worksite Wellness Activities
    - Body Fat Analysis (loan equipment)

- In addition to the Chronic Disease Prevention Team, the Office of Minority Health at Louisville Metro Public Health and Wellness promotes physical activity by working with community partners in underserved areas. Their efforts to address obesity and increase physical activity include:
    - Coordinate the Take Charge Challenge worksite wellness program for Metro employees
    - Provide technical assistance, training to area employers interested in starting Take Charge Challenge program for their employees
    - Manage and support the 300-Mile Walking Club (nationally award-winning NACCHO Model Practice)
    - Provide a walking coach to motivate interested individuals to improve fitness and instruction on proper walking techniques for better results
    - Conduct biweekly walks for walking clubs in Metro Parks
    - Hold monthly meetings with speakers to educate on health and nutrition ("Let's Eat" night is a healthy potluck dinner where each dish is accompanied by a healthy recipe)
    - Provide incentives for accomplished personal goals and for reaching 300 walking miles during the spring and summer months
    - Provide screening for body mass index, blood pressure and weight to monitor success
    - Measure a one-mile route for walking clubs and worksite wellness programs.
    - Promote walking clubs at health fairs and through the media
    - Promote low-impact physical fitness program ("Sisters Together Move More, Eat Better" for women of color, in partnership with SWANS Health Ministry.
    - Distribute Metro Parks Department Fitness booklets at classes, to community groups, worksites, health fairs, etc. to ensure access to free, low-cost resources for physical activity.
    - Assure physical activity access via aerobics classes at Louisville Metro Health Department (400 E. Gray location) and Park DuValle Health Center and at Mayor's Healthy Hometown events.
    - Provide leadership to and technical assistance for Active Louisville's work to support changes in the physical environment that promote more physical activity.

<u>Tobacco</u>

- The Tobacco Prevention and Cessation Program in Louisville Metro Public Health and Wellness works to address the following goals:
    - Prevent initiation of tobacco use among young people
    - Promote cessation of tobacco use among young people and adults
    - Eliminate nonsmokers' exposure to environmental tobacco smoke
    - Eliminate the disparities related to tobacco use and its effects among different population groups
- The Tobacco Program staffs the Jefferson County Smoke Free Coalition, which has 160 members representing 97 businesses, non-profit organizations, government agencies, and individuals. Some of the program's activities include:
    - Expand the number and locations of Cooper-Clayton stop smoking classes for adults

- Offer smoking cessation classes (TAP/TEG, LAF Lab) to youth
- Produce a *Smoke Free Dining Guide*, which lists Louisville Metro restaurants that do not allow smoking
- Provide education and information on tobacco use and cessation:
- Let's Be Blunt and Band4Life for youth
- Mother's Day Out for pregnant women
- Standardized Patient Project for U of L medical, dental, and dental hygiene students

*What else should we do?*

- Coordinate activities under the Mayor's Healthy Hometown Movement, to increase awareness of behavioral health risks, encourage healthy eating and physical activity, and develop resources for healthy living.
- Partner with Active Louisville's RWJF-funded programs, "Active Living by Design," and "Healthy Eating by Design" to effect changes in the physical environment supportive of healthy lifestyle habits and risk factor reduction.
- Provide leadership for the Mayor's Healthy Hometown Movement Advisory Committee groups via a CDC Prevention Specialist, social marketing campaign, Health Promotion Schools of Excellence, and relevant policy development.
- Gather baseline data on Louisville Metro employers that have/are interested in workplace health promotion programs.
- Promote "Take Charge Challenge" worksite wellness program as a turn-key program, with technical assistance from LMPHW, that will enable employers to promote physical activity among their employees.
- Provide health outreach, training, and capacity-building in 50 faith organizations in Metro Louisville through the Office of Faith and Health.
- Provide leadership on the Kentucky Physical Activity Coalition.
- Improve the integration of health education activities for chronic disease prevention among disparate populations in Louisville Metro through the Center for Health Equity.

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## Oral Health

Oral health refers to the health of the oral cavity, which includes the mouth and throat. Cavities (tooth decay), gum disease, tooth loss, and cancer are some of the conditions that may affect a person's mouth and throat. These conditions can cause pain, poor nutrition, absence from school and work, poor appearance, diminished self-esteem, and even death.

## Last Visit to a Dentist or Dental Clinic

### *What is it?*

The period of time that has passed since an individual made a visit to a dentist or dental clinic is an indication of how frequently the individual is seen by a dentist.

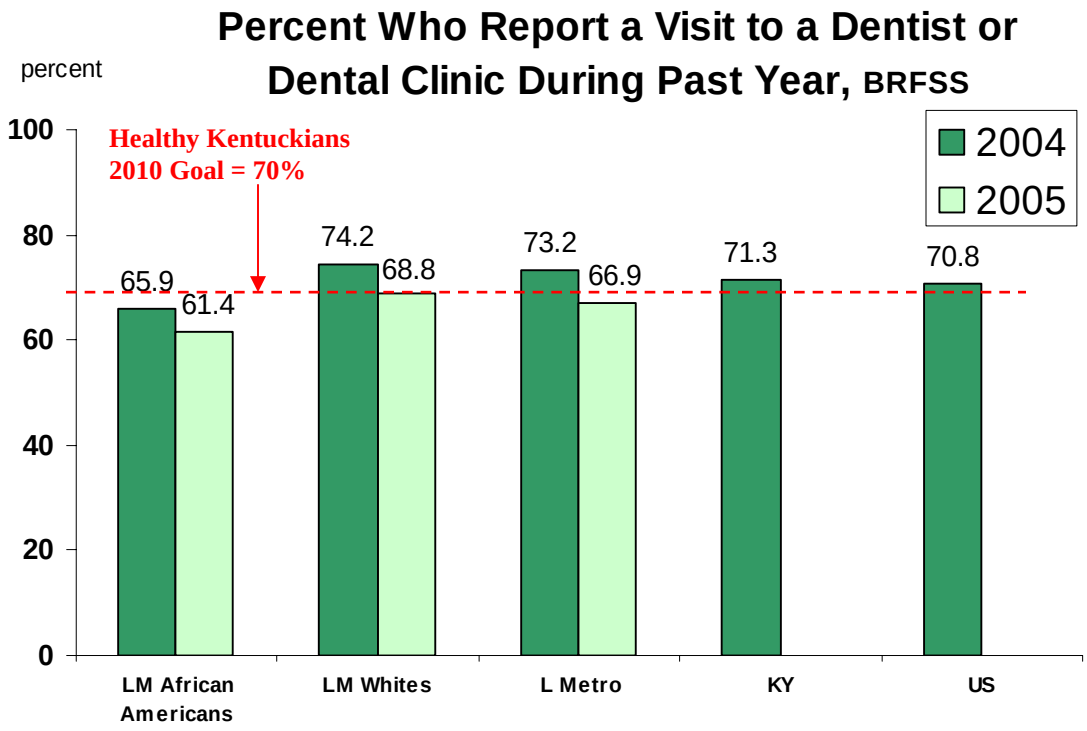
### *Why is it important?*

Regular visits to a dental health professional help in the prevention and early detection of tooth decay and gum disease. Early detection of these conditions can result in better oral health outcomes. Healthy Kentuckians 2010 has set a goal of increasing the percent of adults who went to a dentist or dental clinic during the past 12 months to 70%.

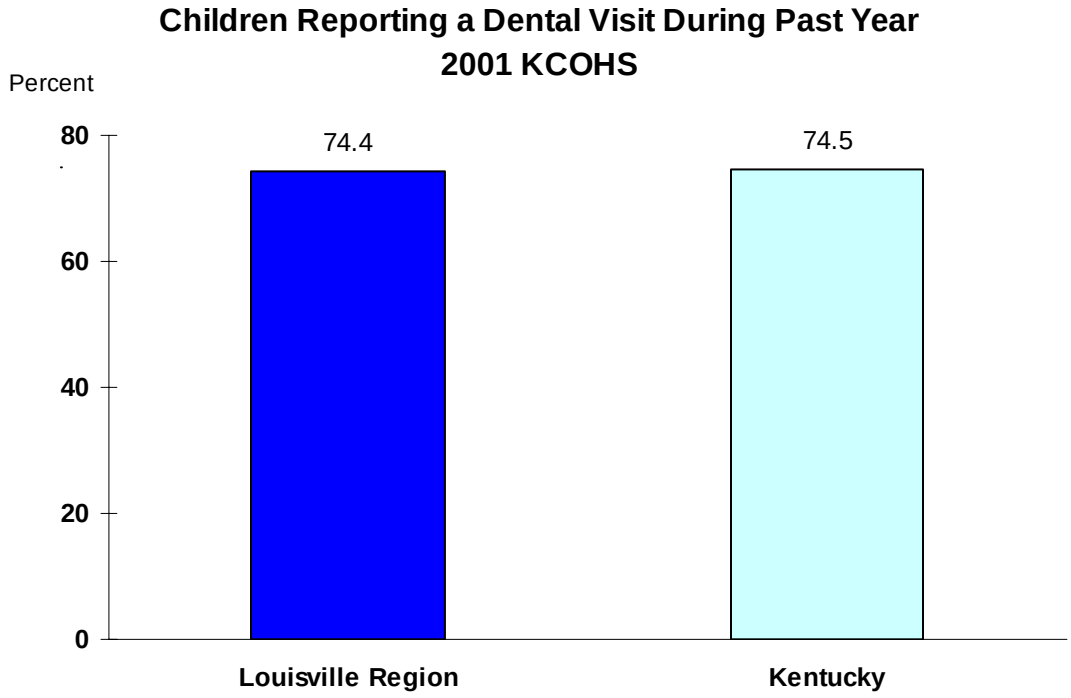
### *What is Louisville Metro's Status?*

The Behavioral Risk Factor Surveillance System (BRFSS) survey periodically includes the question, "How long has it been since you visited a dentist or dental clinic for any reason?" This item includes visits to orthodontists and other dental health specialists.

In 2004 and 2005, the BRFSS survey of Louisville Metro residents asked respondents if they visited a dentist or dental clinic within the last year. The Healthy Kentuckians 2010 goal was 70%. In 2004, all but Louisville Metro African Americans met the goal. However, in 2005 the percentages dropped below 70% for Louisville Metro overall and for Whites and African Americans in Louisville Metro. There are no other comparison data available for 2005.



The Kentucky Children's Oral Health Profiles, 2001 Report presented the results from dental screenings of over 5,600 third and sixth graders in Kentucky as part of the Kentucky Children's Oral Health Survey (KCOHS). At the time of publication, this report provided the latest available data on children's oral health in the Louisville region and the state of Kentucky. Within this report, the region containing Louisville included the Kentucky counties of Bullitt, Jefferson, Oldham, Shelby, and Spencer. They found that over 74% of the children in Kentucky and in the Louisville Region had a dental visit during the past year. This exceeds the Healthy Kentuckians 2010 goal of 70%.



## Last Preventive Dental Visit

*What is it?*

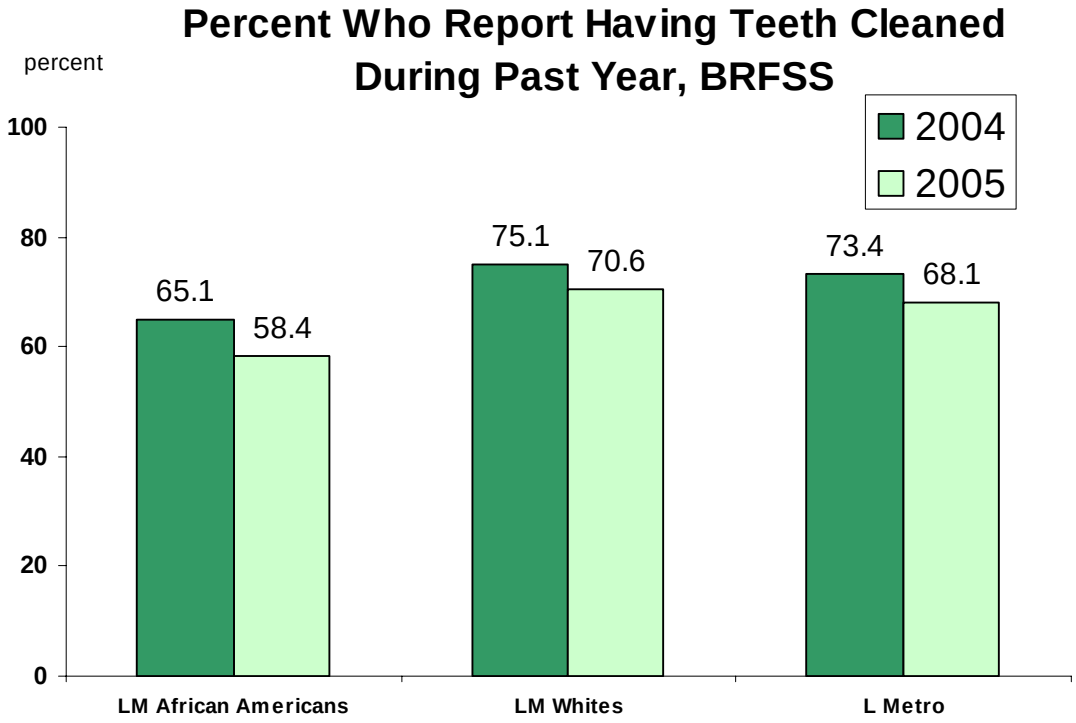
Preventive dental visits typically include teeth cleaning performed by a dentist or dental hygienist and a dental examination. The primary purpose of teeth cleaning is to remove deposits such as plaque and tarter which can lead to periodontal disease.

*Why is it important?*

It is important to distinguish preventive dental visits from other visits to a dentist or a dental clinic because it is the preventive dental visits that have the best potential to identify conditions that can cause serious problems if left untreated.

*What is Louisville Metro's status?*

In 2004 and 2005, the Louisville Metro BRFSS survey asked respondents if they had their teeth cleaned during the last year. African Americans had a lower percent reporting having their teeth cleaned both years. The percent for all categories decreases from 2004 to 2005.



## Reasons for No Dental Visit During Past Year

*What is it?*

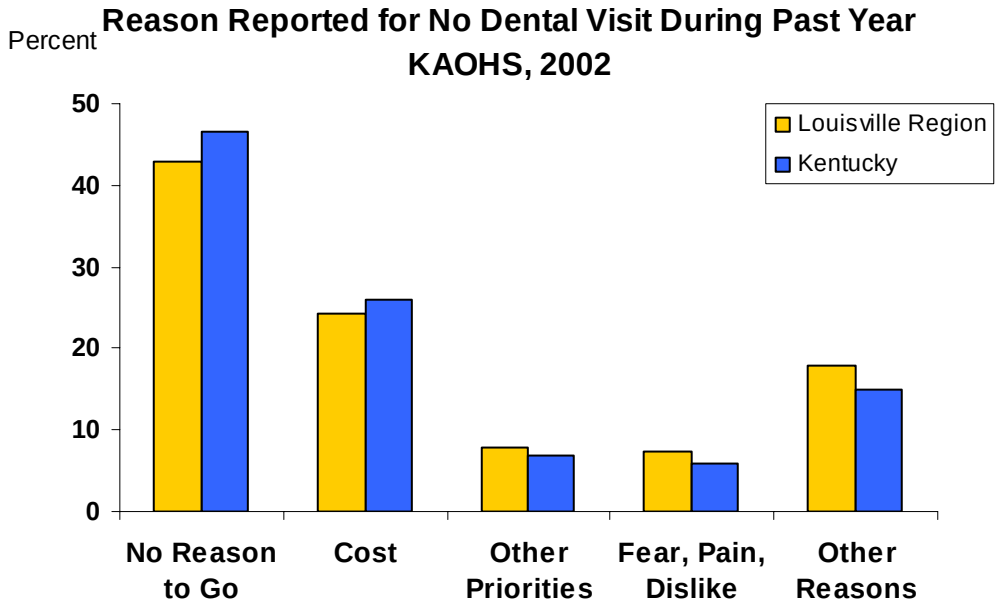
The Kentucky Adult Oral Health Survey (KAOHS) in 2002 asked respondents for their reason for not visiting a dentist in over a year. Adults who did not visit a dentist in over a year had different reasons for making this decision.

*Why is it important?*

If regular dental attention is important to maintain oral health, we must understand the reasons why adults do not visit a dentist. An understanding of these reasons can help us remove barriers to better oral health that may exist for Louisville Metro residents. This information can also help shape marketing efforts to encourage Louisville Metro residents to visit a dentist more often.

*What is Louisville Metro's status?*

The 2002 KAOHS divided the State of Kentucky into regions and the Louisville region included the Kentucky counties of Bullitt, Jefferson, Oldham, Shelby, and Spencer. In the Louisville Region, 42.8% of respondents indicated they believed they had no reason to visit the dentist during the last year. Another 24.3% cited cost as their reason while 7.8% reported they had other priorities and 7.4% reported fear, apprehension, nervousness, pain, and disliking visiting the dentist.



## Incidence of Cancer of the Oral Cavity and Oropharynx

### *What is it?*

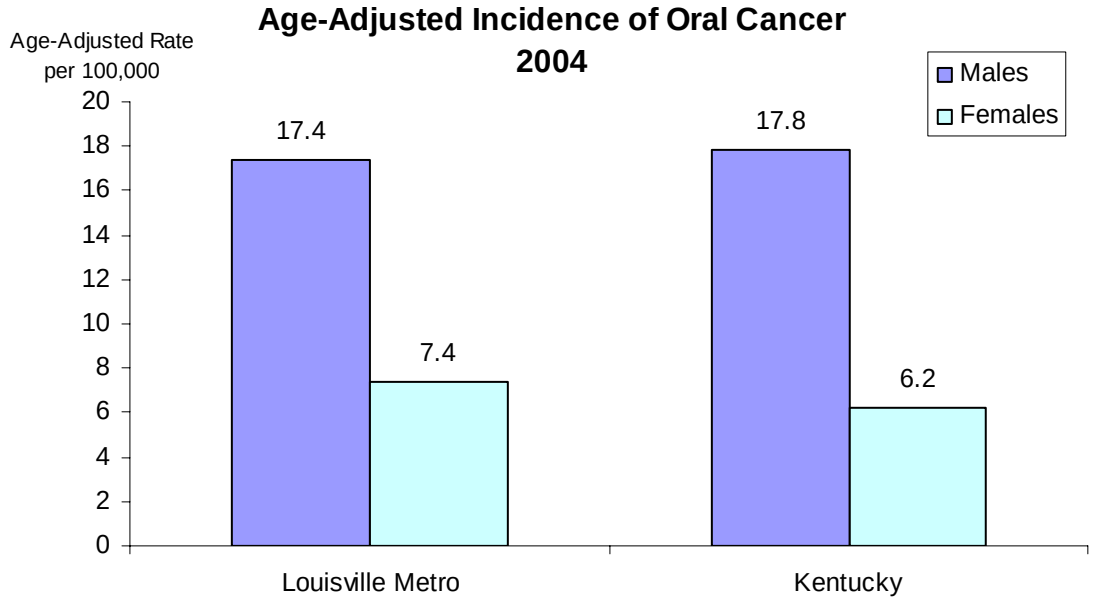
Cancers of the oral cavity and oropharynx include cancers of the lips, gums, mouth, and the back wall of the throat.

### *Why is it important?*

Cancers of the oral cavity and oropharynx are serious conditions that can require extensive disfiguring surgery or can result in death. Most oral and oropharyngial cancers can be prevented by avoiding known risk factors such as alcohol and tobacco.

### *What is Louisville Metro's Status?*

In 2004, Louisville Metro had an age-adjusted incidence rate of 12 cancers of the oral cavity and oropharynx per 100,000 persons (data from the Kentucky Cancer Registry). However, there was a significant difference between males and females with regard to incidence of oral cancer. Males had a rate that was more than two times higher than the rate for females. These rates were similar for Kentucky.



## Self-Reported Oral Health

*What is it?*

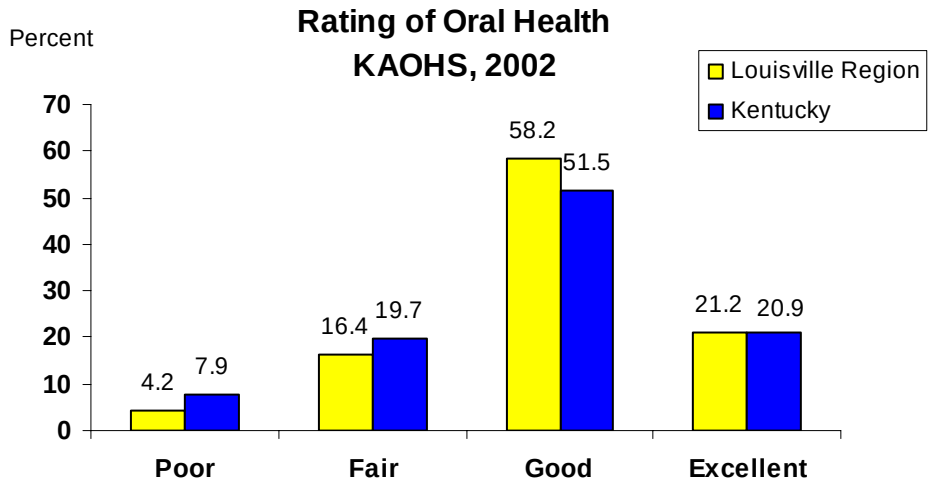
The Kentucky Adult Oral Health Survey (KAOHS) in 2002 asked respondents for details about their oral health. Included were questions about respondents' ability to chew food, ability to speak clearly, happiness with appearance of teeth, problems with oral pain, and perceptions about overall oral health.

*Why is it important?*

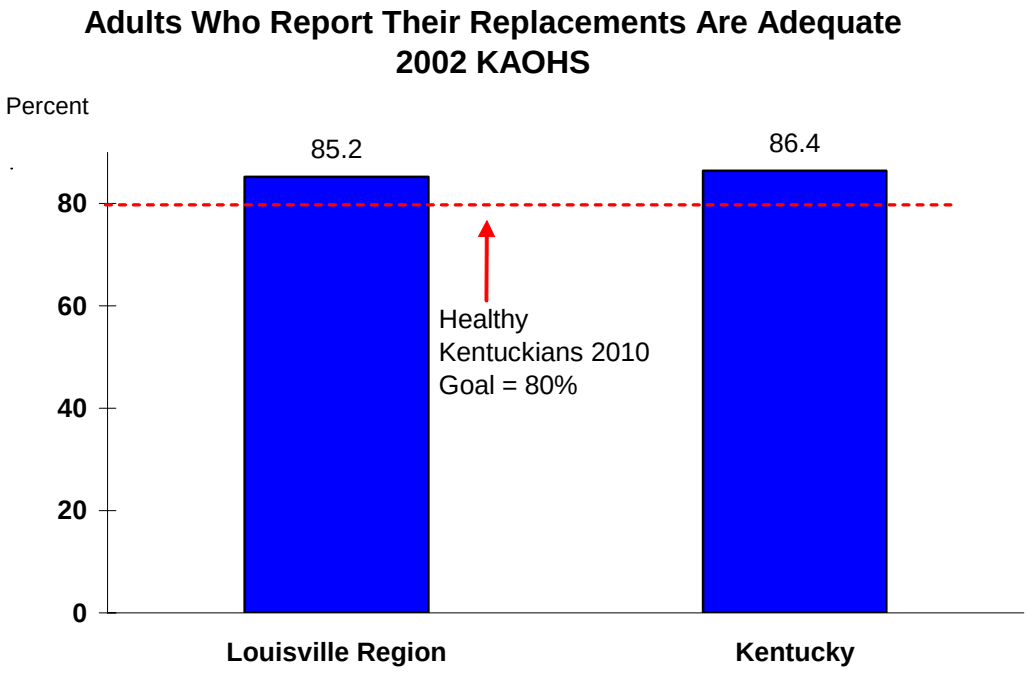
Many oral health conditions result in pain or difficulties with every-day activities such as speaking and eating. To fully understand the oral health concerns of our community, it is important to ask residents to describe their experiences with these problems and listen to their perceptions of their oral health. An understanding of these perceptions can help us understand the full impact of oral health problems in our community.

*What is Louisville Metro's Status?*

In the Louisville Region, 79.4% of respondents report 'excellent' or 'good' oral health compared with 72.4% of Kentucky respondents. This means that 20.6% of Louisville Region respondents report 'fair' or 'poor' oral health.



The 2002, KAOHS asked respondents: “Are your dentures, partials or bridges adequate, that is, are they comfortable, do they work well, and do they look good?” The Healthy Kentuckians 2010 goal is that at least 80 percent of the people who are missing six or more teeth have adequate dentures, partials or bridges. Both the Louisville Region and the state of Kentucky have met this goal with more than 80% satisfied with their dentures and partials.



*What are we doing?*

The Louisville Metro water supply is treated with fluoride. Louisville Metro Public Health and Wellness (LMPHW) routinely monitors the level of fluoride in the water supply under the direction of the University of Louisville, School of Dentistry (ULSD).

The LMPHW works with the Kentucky Department for Public Health in the KIDS SMILE program. This program is for children up to five years of age who receive a "fluoride varnish" treatment, which consists of applying fluoride on the child's teeth. The fluoride varnish, which is absorbed by the enamel of the teeth, provides additional resistance to tooth decay for up to three months.

The LMPHW in cooperation with the ULSD operates a dental clinic at the Dixie Health Center, 7219 Dixie Highway. The Dental Director at the clinic is also the Director of Community Dental Health at the University of Louisville. This clinic operates five days a week with emergency coverage at night and on weekends provided by ULSD. The fees are on a sliding scale and the clinic is one of Louisville Metro's four safety-net dental care providers. The clinic also provides treatment to persons with HIV infection under a Ryan White grant.

The ULSD and the LMPHW participate in community health fairs where they provide educational materials on oral health and provide oral health screenings.

The LMPHW has a mobile unit with dental equipment used for outreach to underserved populations.

The LMPHW has a Smoking Cessation and Prevention program that educates on the health issues related to tobacco, including smokeless tobacco. They also offer classes with support groups for assisting people to stop using tobacco products.

The LMPHW and ULSD also work on oral health initiatives with the following partners:

- Jefferson County Public Schools and their Health Promotions Schools of Excellence
- Colgate Palmolive Company
- The Teenage Parent Program
- Area Health Education Center
- Smile Kentucky provides fluoride varnish and sealant applications at the Kentucky State Fair
- Head Start and Early Head Start
- Kentucky Cancer Project
- Metro Dental Safety Net, which works to insure access to dental care and provision of emergency dental care

*What else do we need to do?*

Louisville Metro Public Health and Wellness will investigate expanding the fluoride varnish program for preschoolers. It should also consider making the training for fluoride varnish application required for all department employees who provide services to preschool children.

Louisville Metro Public Health and Wellness will continue to respond to the access problem by pursuing appropriate and available funding to increase the oral health services in the community by helping low-income and other underserved patients get the dental care they need.

LMPHW will pursue the development of appropriate oral health education information for outreach to semi-dependent older adults.

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## Mental Health

### *What is it?*

Mental health, according to the Surgeon General Report, is "the successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity."[1] From early childhood and throughout our lifetime, "mental health is the springboard of thinking and communication skills, learning, emotional growth, resilience, and self-esteem."[1]

Mental illness, sometimes referred to as a mental disorder or a mental problem, is a health condition that includes alterations in thinking, mood and/or behavior "associated with distress and/or functioning."[1] Mental illness may be caused by a reaction to environmental or internal stresses, genetic factors, biochemical imbalances, or a combination of these factors. There are more than 200 classified forms of mental illness. Examples include psychotic disorders, mood and anxiety disorders, organic brain disorders, and personality disorders. Mental illnesses can be treated successfully in a variety of ways, including counseling, medication, and support services.

### *Why is it important?*

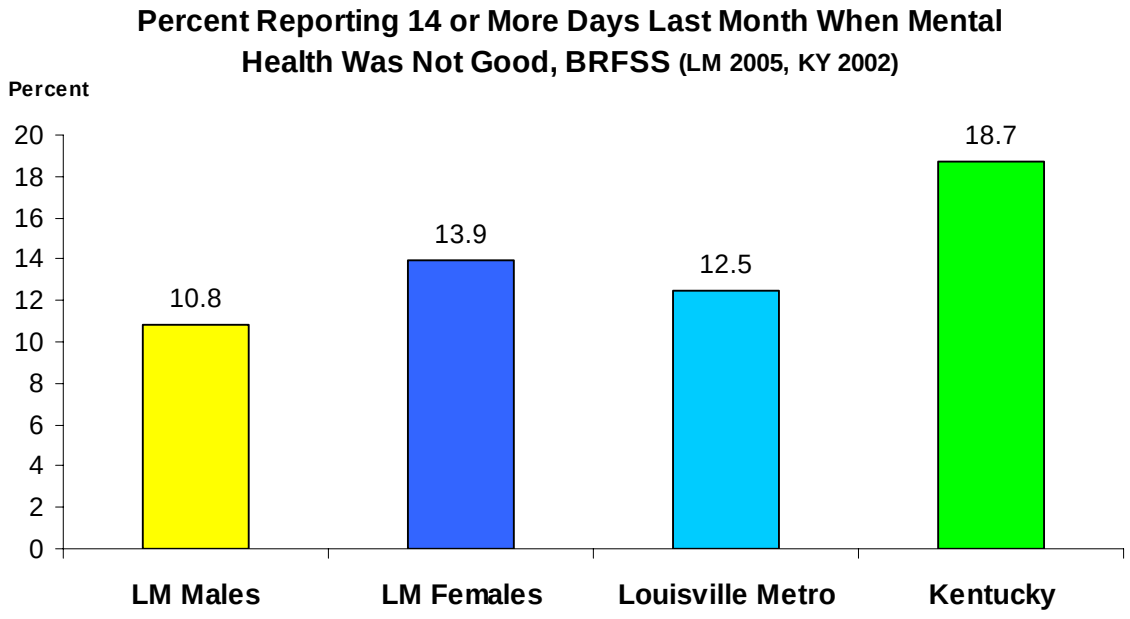
Mental illness affects up to 20% of people during a year, regardless of age, gender, race, ethnicity, religion, or economic status.[1] Mental illnesses cause mild to severe disturbances in thought, mood and/or behavior, resulting in an inability to cope with life's ordinary demands and routines. Forty percent of people diagnosed with alcohol dependency and substance abuse display signs of mental disorders prior to initiating drug use.[1] Mental illness can lead to suicide.

Due to the lack of understanding and the stigmas associated with mental health issues, people may not seek treatment. For example, while the number of persons in treatment grows every year, two-thirds of people with depression still receive no treatment.[1]

*What is Louisville Metro's status?*

In 2004 and 2005, Louisville Metro Public Health and Wellness conducted Behavioral Risk Factor Surveillance System (BRFSS) telephone surveys of over 2,000 Louisville Metro adults. Included in these surveys were questions related to mental health. One question asked in both surveys was: "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"

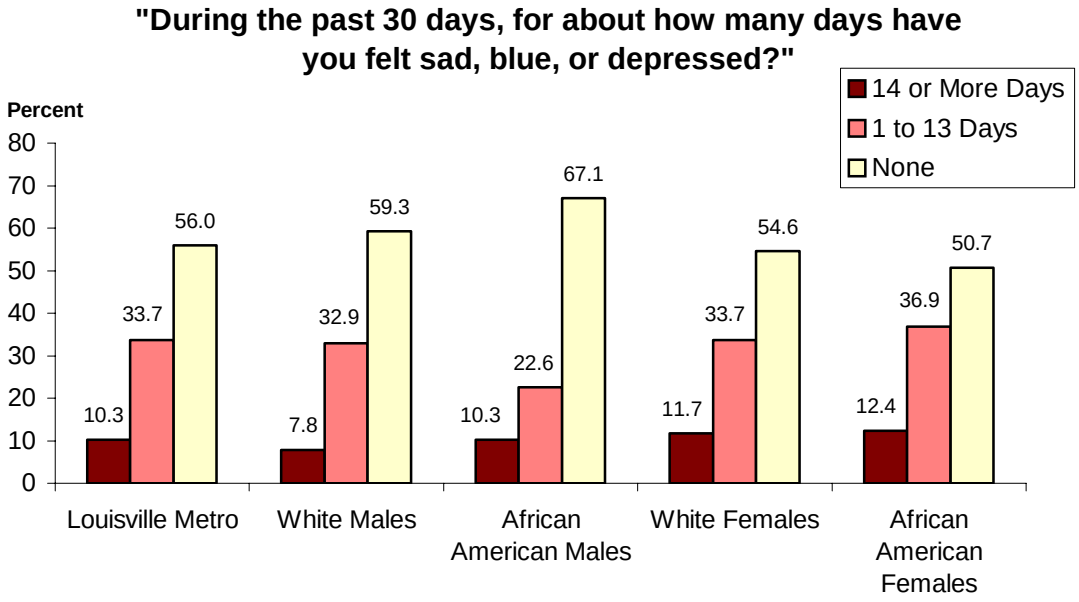
The 2005 survey found that 13% of those interviewed had mental health they perceived was "not good" at least 14 days out of the past month. The percent responding with fourteen or more days was higher for females (13.9%) than males (10.8%). By comparison, in 2002 the State of Kentucky asked this question in a BRFSS survey and found that 18.7% of Kentucky adults experienced 14 or more days out of the last thirty days where their mental health was not good.



Beginning in adolescence and continuing throughout the entire life span, women are more likely than men to be diagnosed with depression. Studies have shown that the prevalence of depression among women is between one and a half to three times more than the prevalence among men.[2] Some contemporary theories attribute the difference in rates of depression between men and women to social causes, specifically that women may have a greater sensitivity to stressful life events and traumas. According to the Vulnerability-Stress Model, women's social role makes them more susceptible to depression.[2]

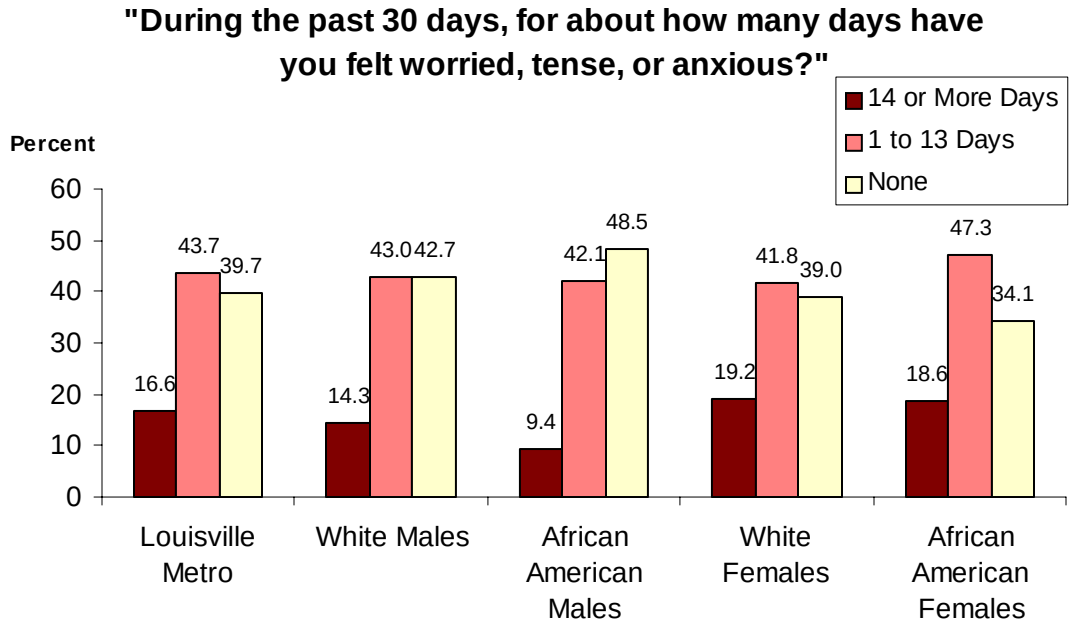
The 2004 Louisville Metro BRFSS survey asked: "During the past 30 days, for about how many days have you felt sad, blue, or depressed?" Forty-four percent of those surveyed reported one or more days of sadness or depression out of the last thirty days. Ten percent of Louisville Metro respondents reported 14 or more days of sadness or depression out of the last thirty. Louisville Metro African American men were less likely to report days of sadness or depression with only 23% reporting at least one day of sadness or depression during the past thirty days.

In Louisville Metro both White and African American women were more likely to report at least one day of sadness or depression during the past thirty days. No U.S. or Kentucky data were available for this and the remaining BRFSS questions reported in this section.



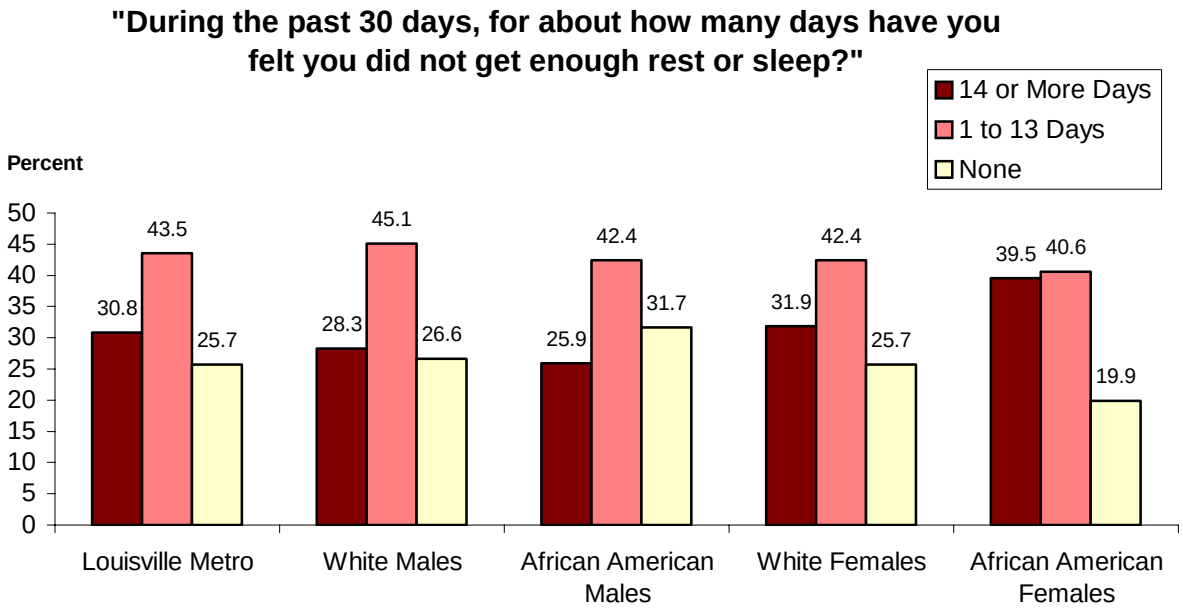
Another question on the 2004 Louisville Metro BRFSS survey was: "During the past 30 days, for about how many days have you felt worried, tense, or anxious?" Sixty percent of those surveyed reported one or more days of worry or anxiety out of the last thirty days. About 17% reported 14 or more days of worry or anxiety during the past month.

African American men in Louisville Metro were less likely to report 14 or more days of worry or anxiety (9.4%), while approximately 19% of African American women and White women reported 14 or more days of sadness or depression. African American women were more likely to report having one or more days of sadness or depression during the past month.




The final mental health related question on the 2004 Louisville Metro BRFSS survey was: "During the past 30 days, for about how many days have you felt you did not get enough rest?" Over 74% of those interviewed from Louisville Metro reported not getting enough rest at least one day in the preceding 30 days. About 31% reported 14 or more days without adequate rest during the past month.

The highest percent reporting not getting enough rest at least 14 days during the last month was among African American females (39.5%). The lowest percent was among African American males (25.9%) followed by White males (28.3%).




At the beginning of the 21st Century, African American women find themselves achieving new heights and reaching new milestones. Education and hard work has enabled them to achieve successful careers and respect in mainstream society. Despite this good news, African American women still find themselves lagging behind Whites and other women in health and mental health indices. For example, the depression rate among African American women is estimated to be almost 50% higher than that of White women.[3]

The rates of mental health problems are higher than average for African American women because of psychological factors that result directly from their experience as African Americans. These experiences include racism, cultural alienation, violence, and sexual exploitation.[3]

## Suicide

### *What is it?*

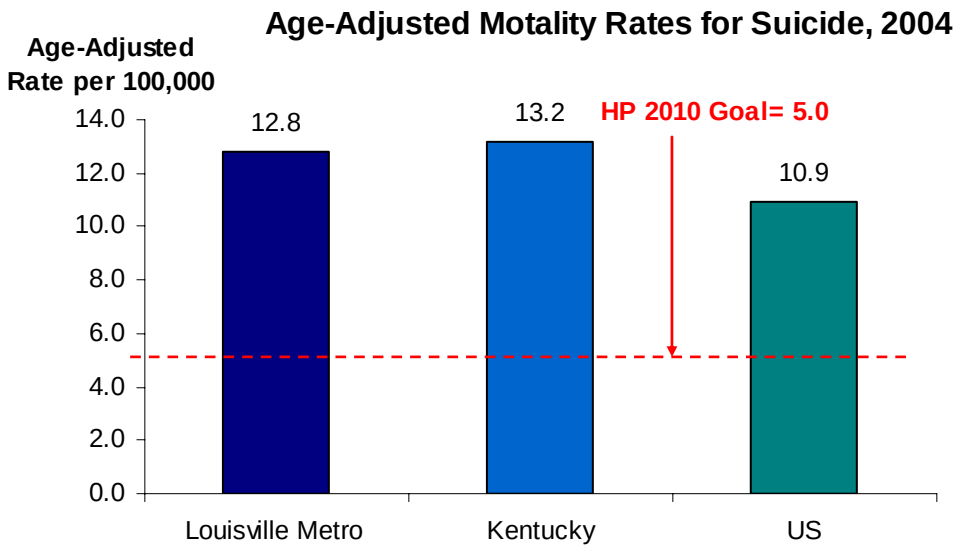
Suicide is a fatal injury that is intentionally self-inflicted. Suicide does not include fatal injuries that are the result of reckless behavior such as drinking and driving.

### *Why is it important?*

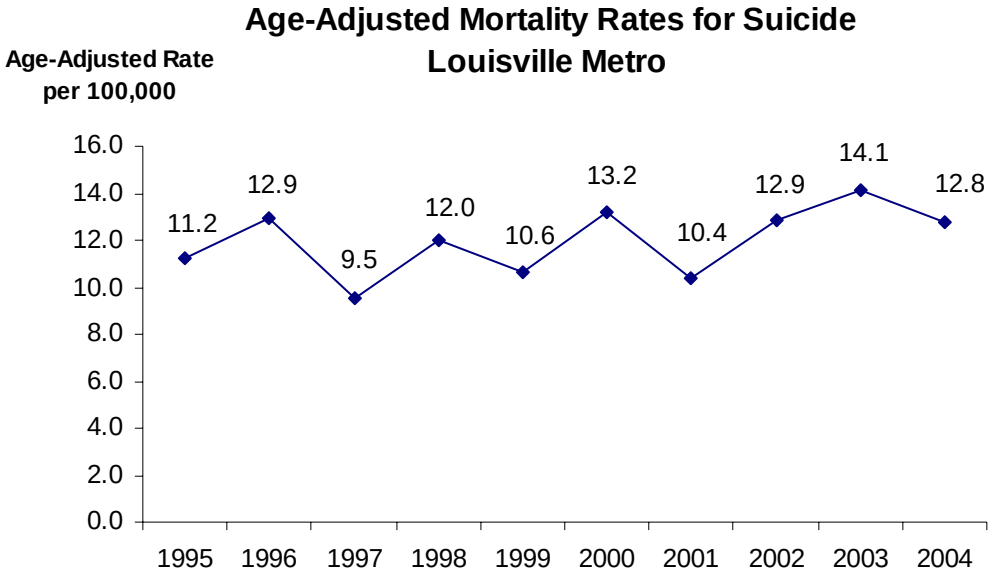
In 2004, suicide was the eleventh leading causes of death in the nation with a total of 31,647 deaths.[4] Overall, the highest suicide rates were among persons aged ≥ 35 years (12.6 per 100,000 population for persons aged 35-64 years and 12.1 per 100,000 population for persons aged ≥ 65 years). The highest suicide rate among males was in the ≥ 65 years age group (28.9 per 100,000 population); the highest suicide rate for females was in the 25-64 years age group (6.9 per 100,000 population).[5] Suicide can often be prevented with effective clinical care for mental, physical and substance abuse disorders.[6]

### *What is Louisville Metro's status?*

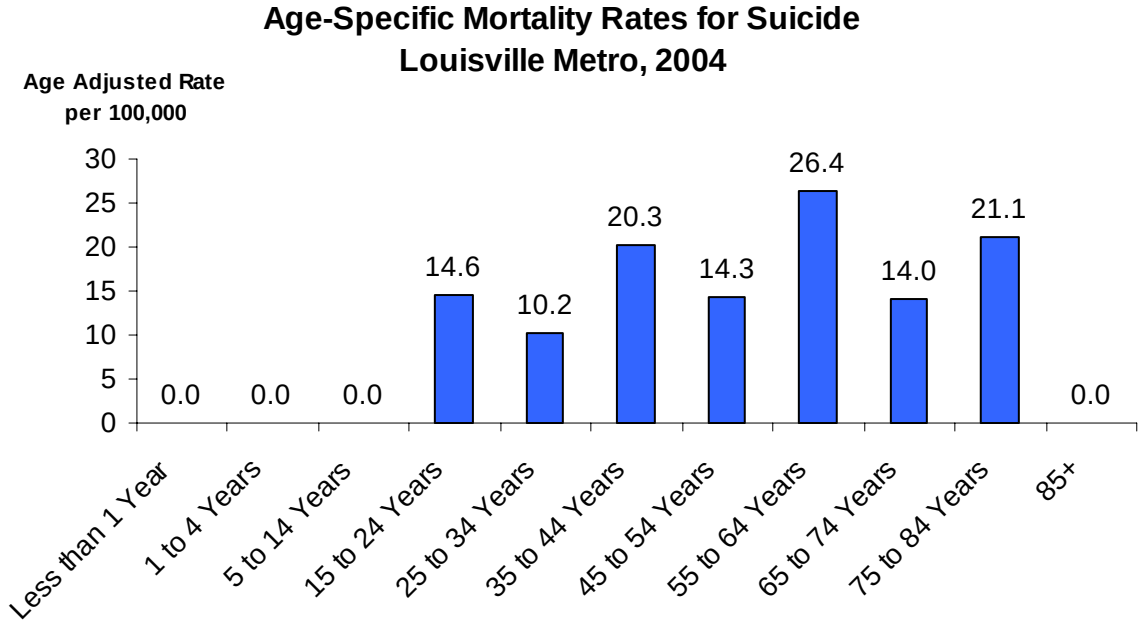
In 2004, there were 91 suicide deaths in Louisville Metro with 65% being firearm-related. The age-adjusted mortality rate of 12.8 per 100,000 was lower than the state rate (13.2), but higher than the national rate (10.9) and more than twice the Healthy People 2010 goal (5.0).[7]



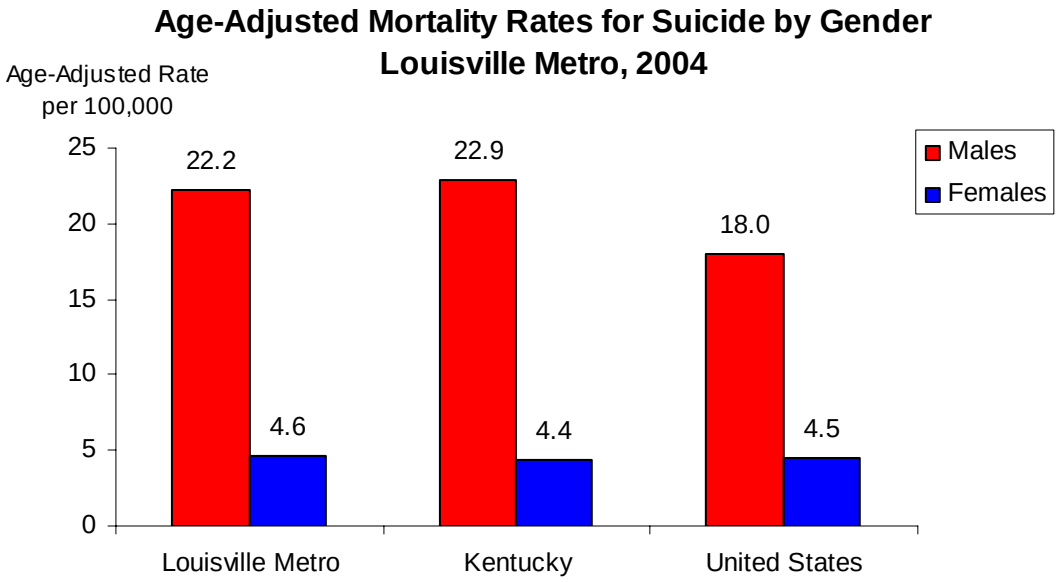
Suicide deaths in 2004 decreased from the previous year; however, both the number and rate of suicide deaths in Louisville Metro have fluctuated since 1995 with no consistent trend.



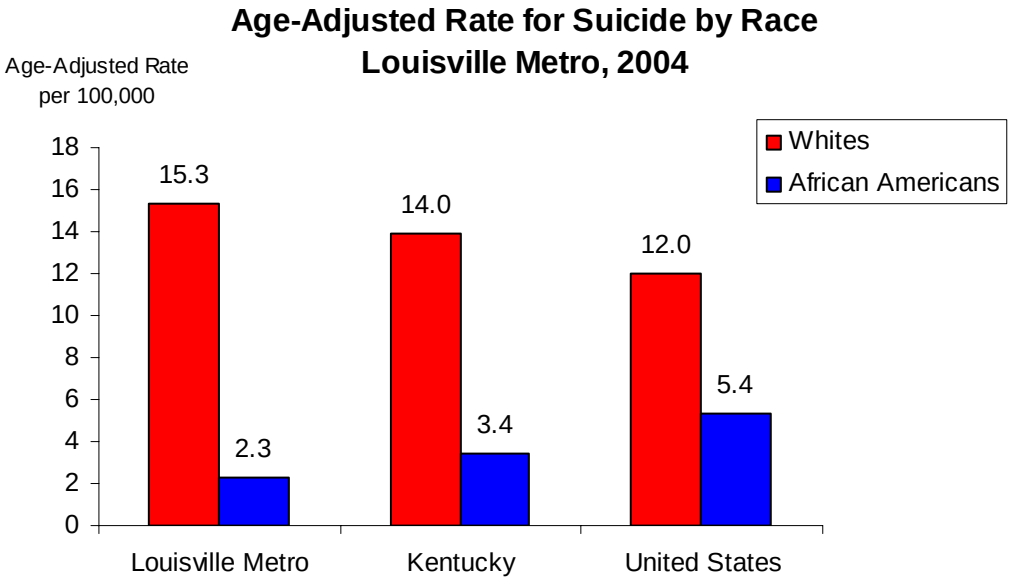

In 2004, the highest rate of suicide (26.4 per 100,000 population) was among those ages 55 to 64 years. The next highest rate was among those ages 75 to 84 years (21.1 per 100,000) and those 35 to 44 ( 20.3).



During 2004, the Louisville Metro age-adjusted suicide mortality rate for males was more than four times higher than females. Kentucky and U.S. rates were also higher for males than females.[8]




The age-adjusted suicide mortality rate for Whites in Louisville Metro was 6 times higher than that of African Americans (15.3 per 100,000 compared with 2.3 per 100,000). Kentucky and U.S. rates were also higher in Whites than African Americans.[8]



*What are we doing?*

Good health means a healthy body and a healthy mind. A view of health must include a mental health component.

The Kentucky State Legislature passed House Bill (HB) 843 during the 2000 legislative session. This bill required Seven Counties Services, Inc. to convene a Regional Planning Council and produce a plan for mental health and substance abuse needs/services. Through this process that began in 2000 and still continues, service providers, health department representatives, consumers, family members, local and state elected officials, and advocates continue working together in Louisville Metro around these priorities to:

- Successfully transition persons with mental illness and/or substance abuse from institutional care (i.e. hospitals, jails, prisons,) to community care;
- Reduce barriers to accessing mental health and substance abuse services;
- Increase supported housing for persons with mental illness and/or substance abuse;
- Make the most appropriate medications available to those who need them and expand medication monitoring; and
- Increase the ability of physicians, school personnel, clergy, law enforcement, and other professionals to effectively identify, screen and refer individuals to appropriate mental health/substance abuse services.

Recent years also have seen unprecedented cooperation and collaboration among mental health providers and others in the community. For example, several local mental health providers work with school counselors, teachers, parents and students in almost all of the Jefferson County public elementary schools.

Seven Counties Services, Inc., the community mental health center for the region, is a partner with Jefferson County Public Schools, Louisville Metro Health and Human Services Cabinet, and the state Department of Community Based Services in the Neighborhood Place Coalition, which provides one-stop resources throughout Louisville Metro for a wide variety of human service needs.

Another Louisville Metro collaborative example is LANSAT (the Louisville Adolescent Network for Substance Abuse Treatment), a partnership among private and public agencies in Louisville Metro and the state. LANSAT offers assessment, referrals to treatment, case management, treatment groups, a resource library and a youth clubhouse for resident's age twelve to twenty years old in Louisville Metro.

The Louisville Metro Jail also offers alcohol and drug services in jail to help persons get treatment and avoid the "revolving door" that, without treatment, so often leads back to jail. There are treatment groups at the Community Corrections Center, a work release group at JADAC, and another at the women's jail.

In addition, Louisville Metro government helps provide funding to the Crisis and Information Center, which offers free 24-hour, seven-days-a-week telephone crisis and referral services. The Crisis and Information Center staff has access to more than 3,500 area resources (i.e., mental health, physical/sexual abuse, HIV/AIDS, alcohol/drug abuse, services for persons with disabilities). The center is one of the nation's busiest, responding to about 80,000 calls each year.

## *What else do we need to do?*

The Health Department needs to continue to emphasize the "the mind-body connection" in its health promotion efforts, and seek to reduce the stigmas around mental illness. Stigma reduction not only helps decrease the reluctance of individuals to ask for help for their mental illness but stops perpetuating the public's ignorance, fear and rejection of those with a mental illness.

The Health Department will continue to improve dialog internally and with the major public sector mental health provider, Seven Counties Services. The two organizations will continue to seek opportunities for collaboration in the areas of advocacy, grants, and public education and awareness activities.

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8. National Center for Injury Prevention and Control. WISQARS Fatal Injuries: Mortality Report. http://webappa.cdc.gov/sasweb/ncipc/mortrate.html

## Injuries

Injuries can be unintentional injuries or intentional injuries. The distinction is whether the person causing the injury did so accidentally or on purpose.

## Unintentional Injuries

### *What is it?*

When we refer to unintentional injury, we mean physical or bodily harm that was not purposefully inflicted. Although they are often referred to as "accidents," unintentional injuries are not random and most are preventable.

### *Why is it important?*

Nationwide, unintentional injury is a major cause of premature death and permanent disability. In fact, nationally, unintentional injury is the leading cause of death for people ages 1-44.[1] During 2004, a total of 112,012 deaths occurred from unintentional injury in the United States.[2] Unintentional injury was the fifth leading cause of death for people of all ages.[2] The age-adjusted U.S. death rate from unintentional injury in 2004 was 37.7 per 100,000 population, which comprised 4.7% of total deaths.[2]

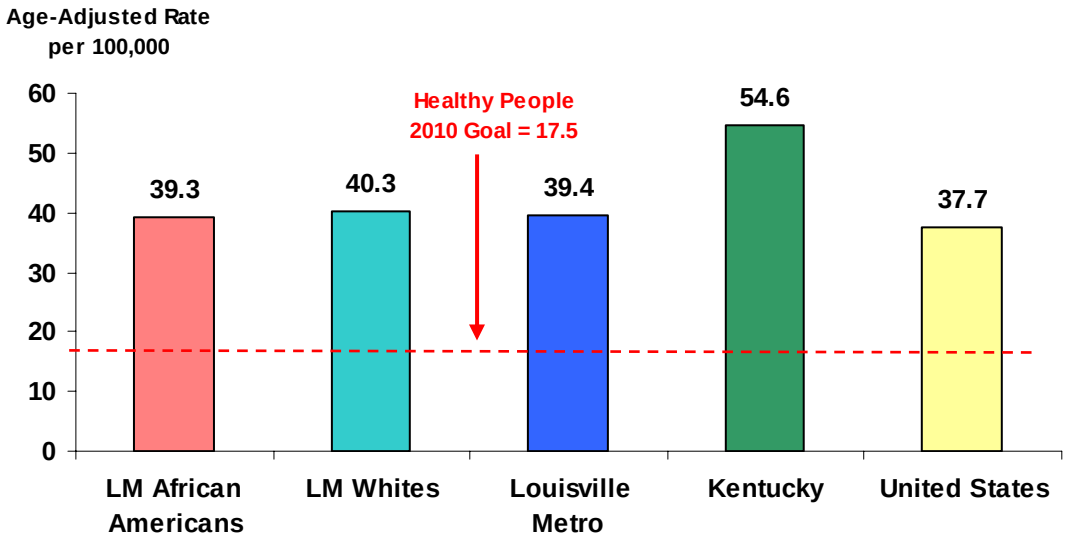
Unintentional injuries affect not only individuals, but society as well. Medical care, rehabilitation, lost wages and lost productivity associated with injuries cost this country approximately $406 billion each year.[3]

Unintentional injuries are also an important public health issue because they are largely avoidable and represent an opportunity for prevention efforts that could significantly impact premature mortality.

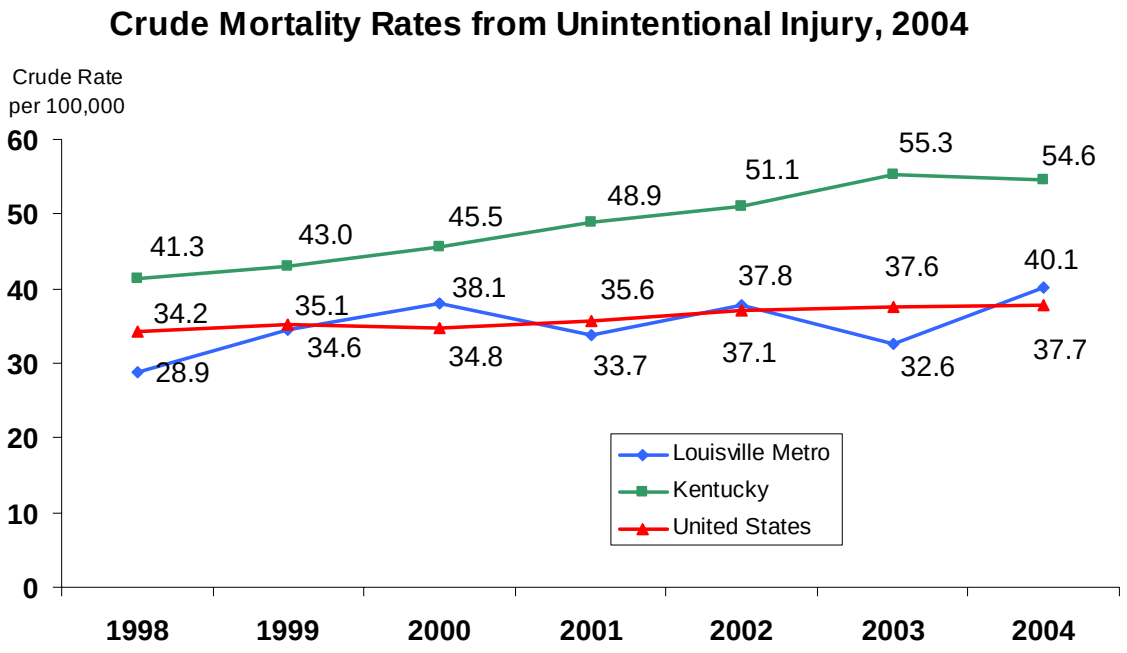
*What is Louisville Metro's status?*

In 2004, there were 278 unintentional injury deaths in Louisville Metro. The age-adjusted mortality rate from unintentional injuries was 39.4 deaths per 100,000 population. This rate was significantly lower than the state rate of 54.6 and slightly higher than the national rate of 37.7 per 100,000 population.[2] However, it was still more than twice the Healthy People 2010 goal of 17.5 deaths per 100,000 population.[5] For Louisville Metro, the age-adjusted death rate from unintentional injuries was 40.3 per 100,000 population for Whites, while the rate for African Americans was 39.3.

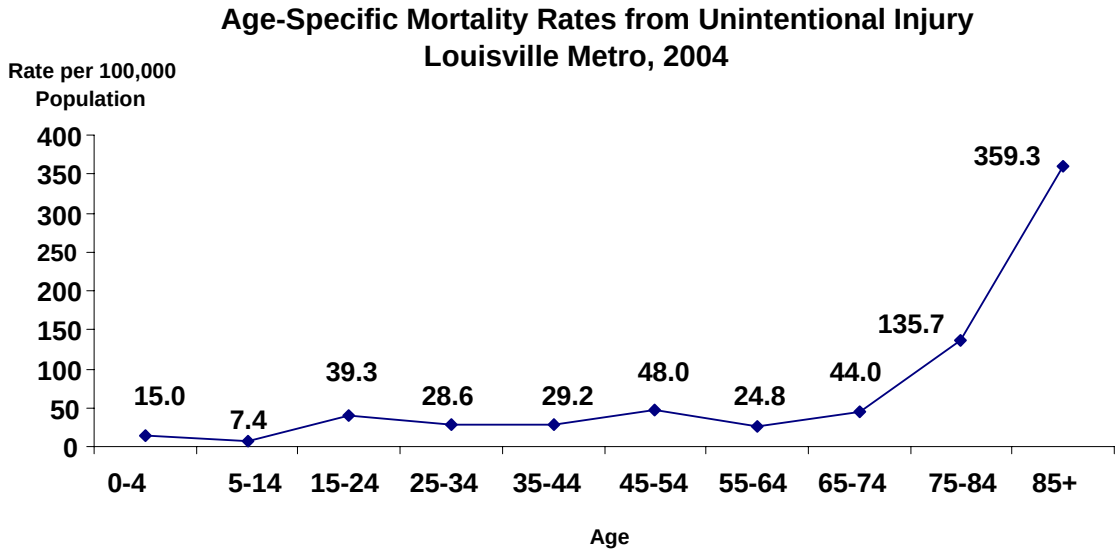
**Age-Adjusted Mortality Rates from Unintentional Injuries, 2004**



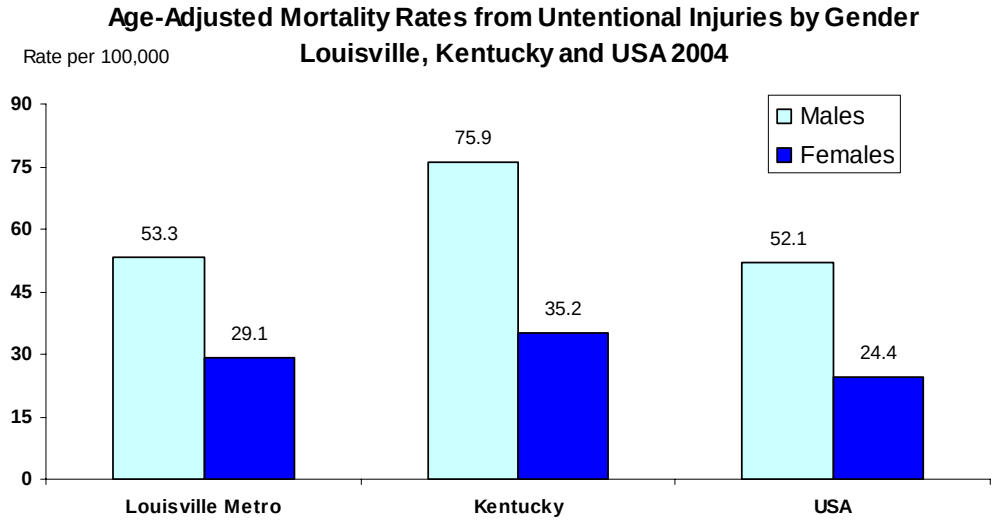

There was an increase in the crude death rate from unintentional injuries for Louisville Metro from 2003 to 2004. While there have been increases and decreases over time (1998 to 2004), the overall trend has been an increase. Over most of the years from 1998 to 2004, the crude death rate steadily increased for Kentucky residents and gradually increased for United States residents.



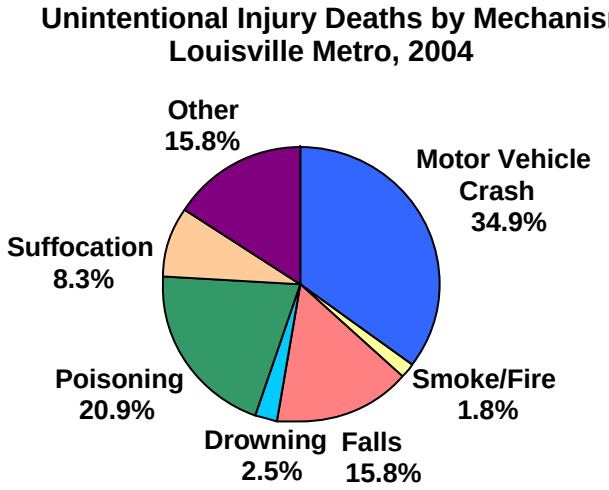

While the actual number of deaths was greatest in the 75-84 years age group, the age-specific mortality rate from unintentional injuries was highest in the age category of 85 years and older.



In 2004, the age-adjusted mortality rate from unintentional injury for males in Louisville Metro was 53.3 compared to 29.1 for females (per 100,000 population). For Kentucky this rate for males was more than twice the rate of females (75.9 compared to 35.2 per 100,00 population).[4] The national unintentional injury mortality rate was 52.1 for males compared to 24.4 for females.[4]




The largest category of unintentional injury deaths was motor vehicle crashes (34.9%), followed by accidental poisonings (20.9%) and falls (15.8%). Among the 58 accidental poisoning deaths, two occurred in children under the age of 15 and had a median age of 45 years. All 58 deaths were classified as accidental poisoning from exposure to drugs or biological agents. The deaths by falling involved 44 individuals with a median age of 81 years.



## Motor Vehicle Crashes

### *What are they?*

Injuries from motor vehicle crashes include those that occur to the occupants of motor vehicles as the result of a collision, as well as those occurring to pedestrians or cyclists who collide with motor vehicles. In 2004, there were 97 deaths of Louisville Metro residents resulting from motor vehicle crashes.

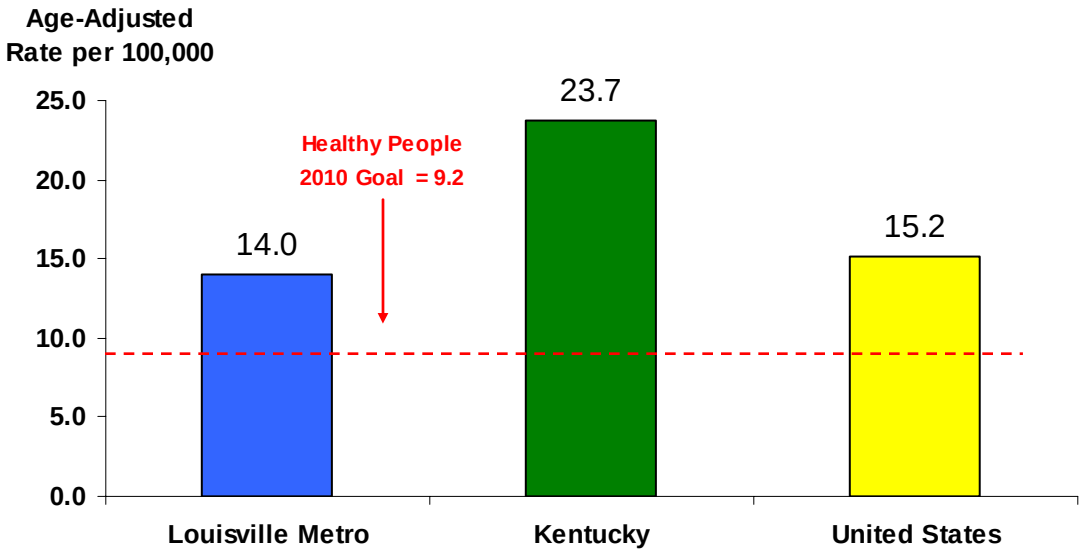
### *Why are they important?*

Nationally, as well as in Louisville Metro, motor vehicle crashes cause more unintentional injury deaths than any other category. They are the leading cause of death for children and young adults nationally.[1] Each year in the United States, over 41,000 people die as the result of motor vehicle crashes. Millions more are injured. Costs associated with injury and death from motor vehicle crashes represents significant burden on our nation's economy, approximately $89 billion annually.[3]

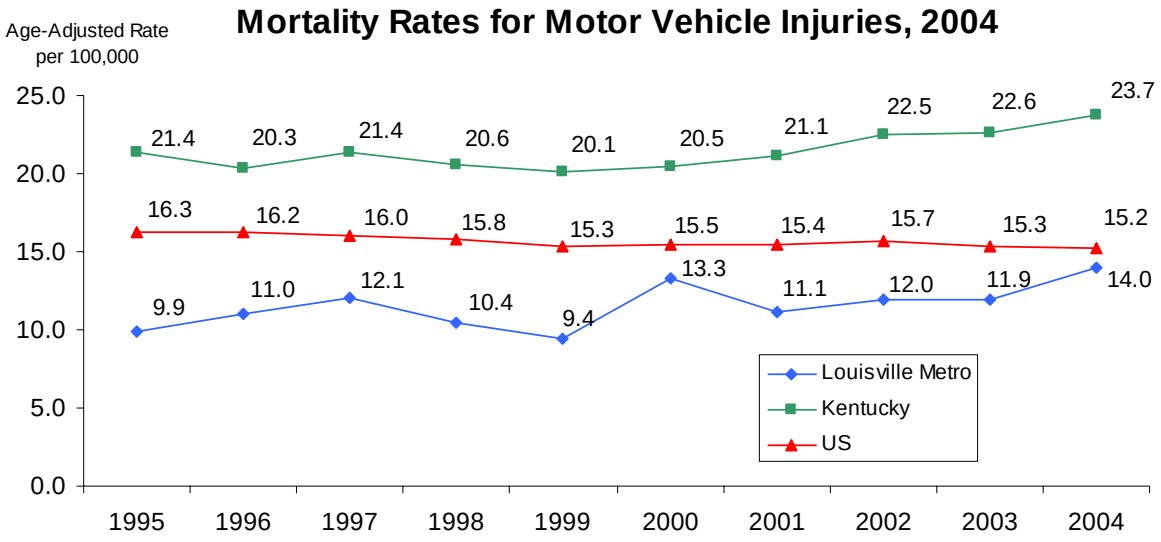
### *What is Louisville Metro's status?*

In 2004, the Louisville Metro age-adjusted mortality rate from traffic-related motor vehicle crashes (14.0 deaths per 100,000 population) was considerably lower than both the state rate (23.7)[2] and the national rate (15.2),[2] yet higher than the Healthy People 2010 goal of 9.2.[5]

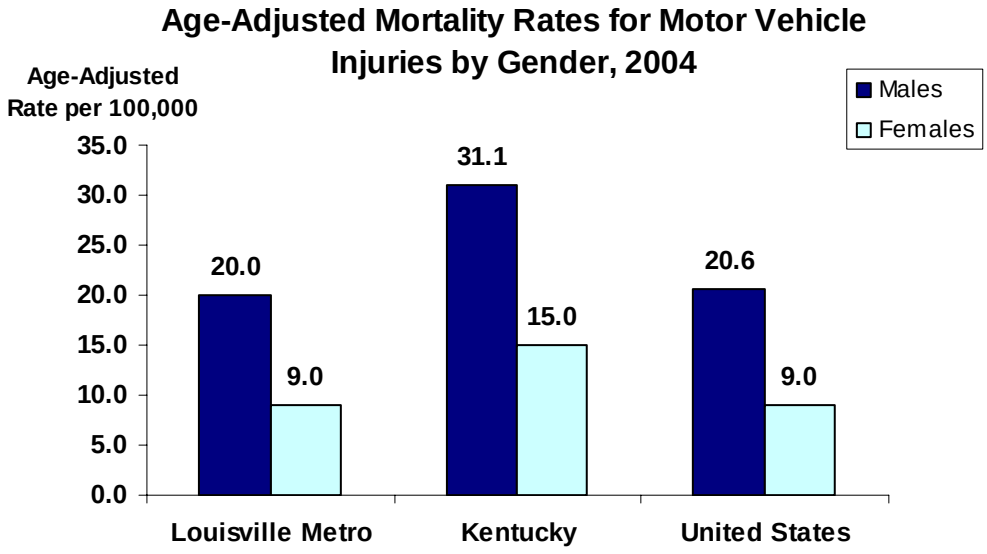
**Age-Adjusted Mortality Rates for Motor Vehicle Crashes, 2004**



During the period from 1995 to 2004, the age-adjusted mortality rate from traffic-related motor vehicle crashes ranged from 9.4 to 14.0 per 100,000 population in Louisville Metro. The death rate for Louisville Metro was lower every year than both the Kentucky and the U.S. rates.




During 2004, the age-adjusted mortality rate from traffic-related motor vehicle crashes for males was 20.0 and 9.0 for females per 100,000 population in Louisville Metro. The rate was also higher for males in Kentucky and the United States, with Kentucky males having the highest rate of 31.1 per 100,000.



## Pedestrian and Bicycle Crashes

### *What are they?*

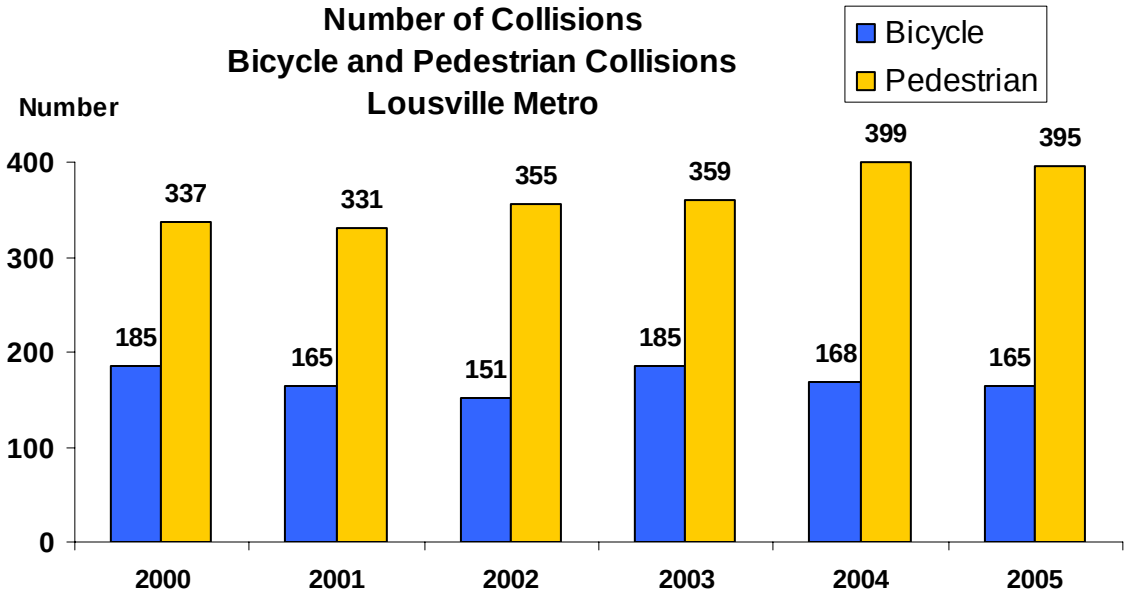
The pedestrian and bicycle crashes reported here include a collision between one or more motor vehicles and either one or more pedestrians or one or more bicyclists that are reported on a Kentucky Uniform Police Traffic Collision Report.

### *Why are they important?*

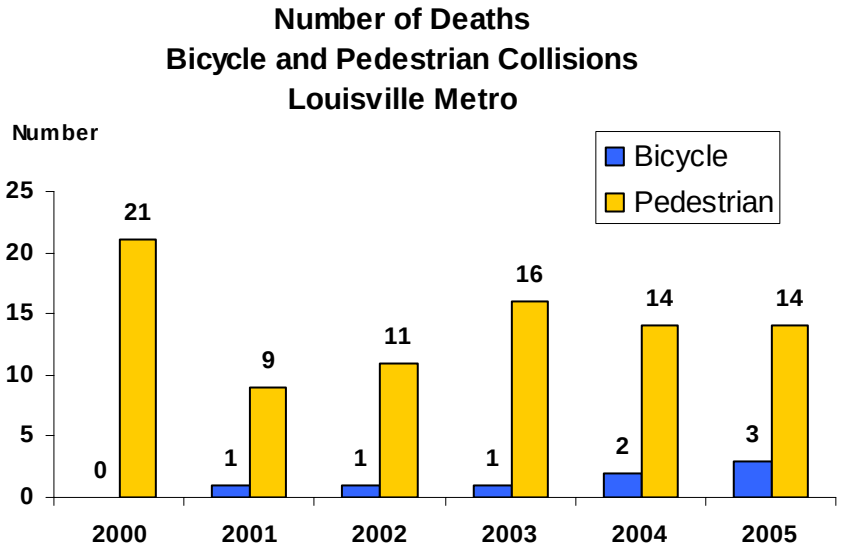
Although walking and bicycling are means of transportation that provide an excellent opportunity to be physically active, the pedestrian or cyclist does not have the protection that a driver has inside a motor vehicle when involved in a collision. Therefore, the faster the speed of the motor vehicle upon impact, the more likely there will be serious injury or death for the pedestrian or cyclist.

### *What is Louisville Metro's status?*

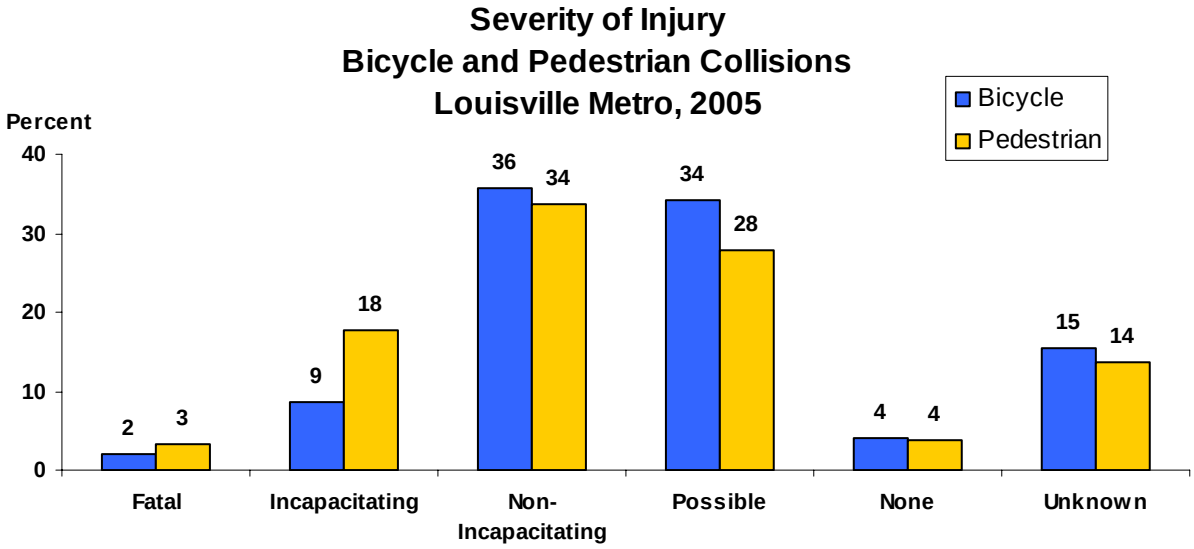
When looking at the Louisville Metro area, the number and rate of bicycle and pedestrian collisions have not changed substantially over the five-year period of 2000 through 2005. The annual rate has been approximately 0.5 per 1,000 population for pedestrian collisions and 0.25 per 1,000 population for bicycle collisions. During this period, the number of pedestrian collisions ranged 331 to 399 and 151 to 185 bicycle collisions.



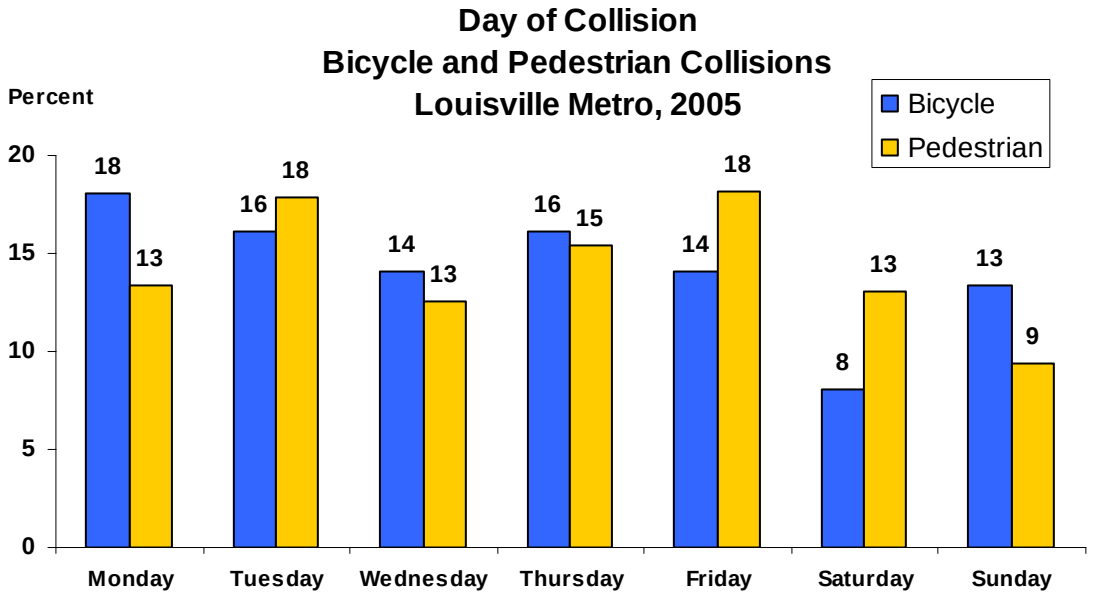
Over the five-year time span, the number of bicyclists killed in these collisions ranged from zero to three, while the number of pedestrians killed ranged from nine to twenty-one.

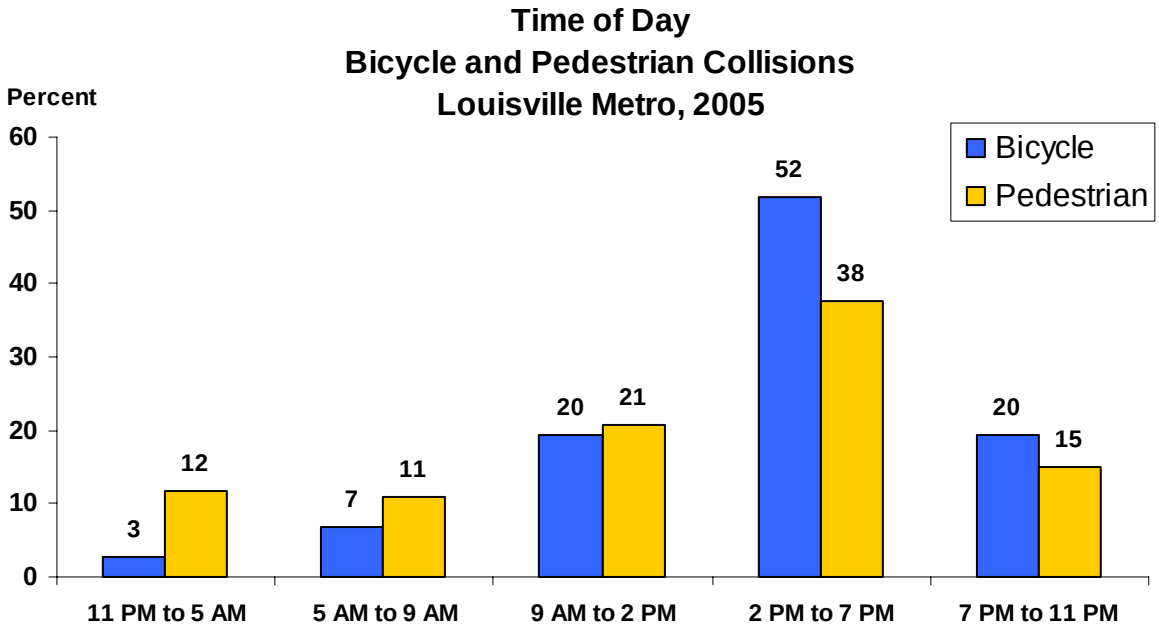



The Kentucky Uniform Police Traffic Collision Reports completed by the Louisville Metro Police Department during 2005 were further analyzed. For the collisions occurring that year where the injury to the pedestrian or bicyclist was known, the percent ending in the death of the pedestrian or cyclist was 3% and 2% respectively. In 18% of the pedestrian collisions and 9% of bicycle collisions, the pedestrian or bicyclist was incapacitated.

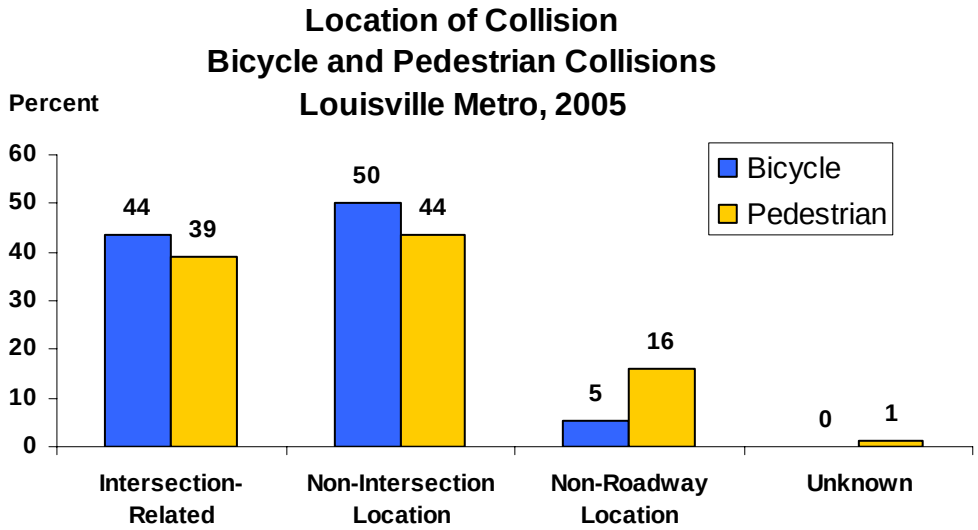


The vehicle collisions with pedestrians and bicyclists in Louisville Metro during 2005 were not generally the result of unusual weather or road conditions. Most collisions occurred during daylight hours and on straight, level, and dry roadways. However, more collisions occurred on Tuesdays and Fridays for pedestrians and on Mondays for bicyclists than any other day of the week. More collisions for both bicyclists and pedestrians occurred during the afternoon/evening rush hours (2:00 to 7:00 PM) than any other time of day.

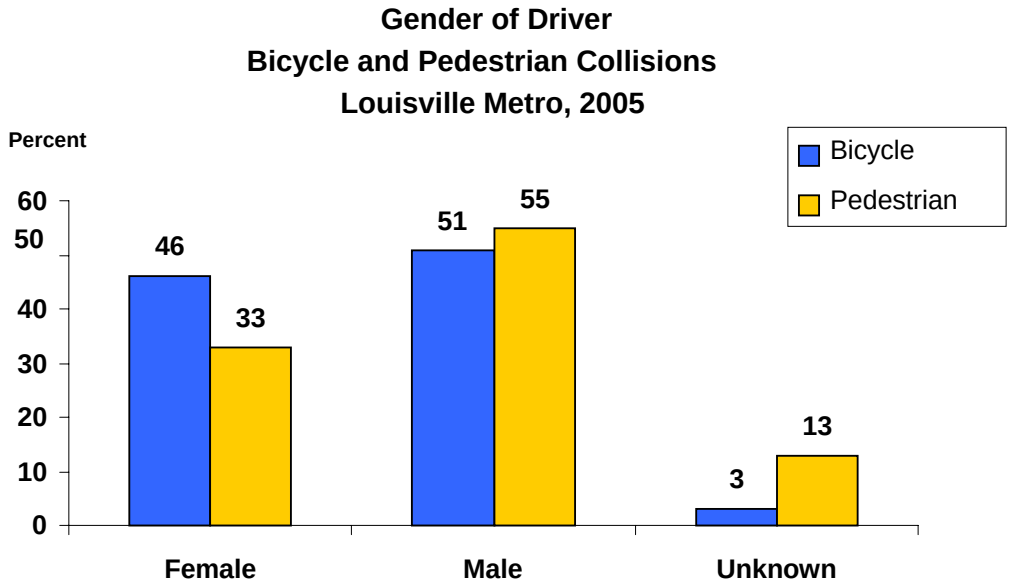


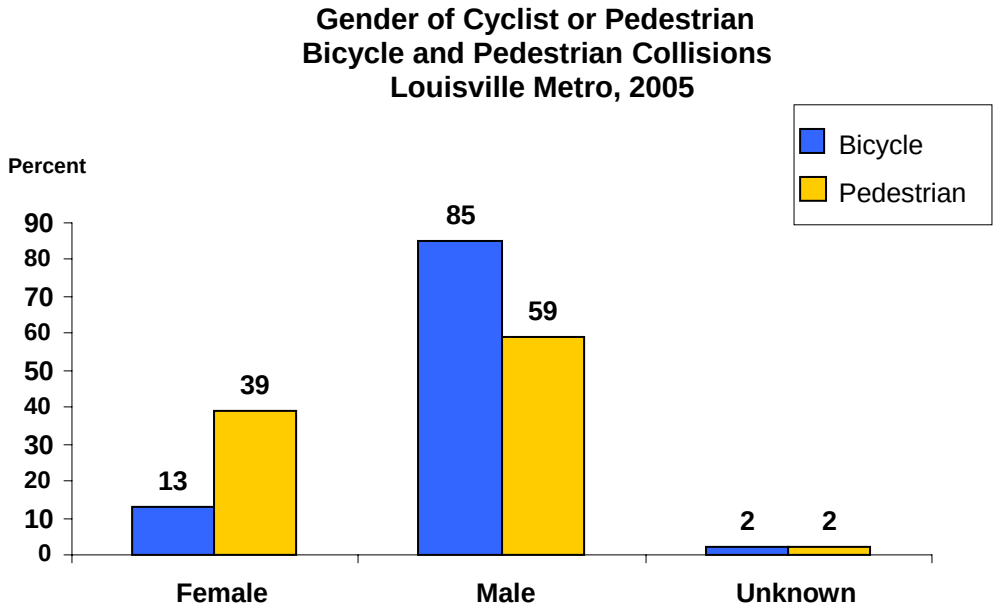



For pedestrian collisions, the most common location was a non-intersection, roadway location (44%), followed by intersection locations (39%) and non-roadway locations (16%). Half of the bicycle collisions occurred at non-intersections (50%), followed by intersections (44%) and non-roadway locations (5%).

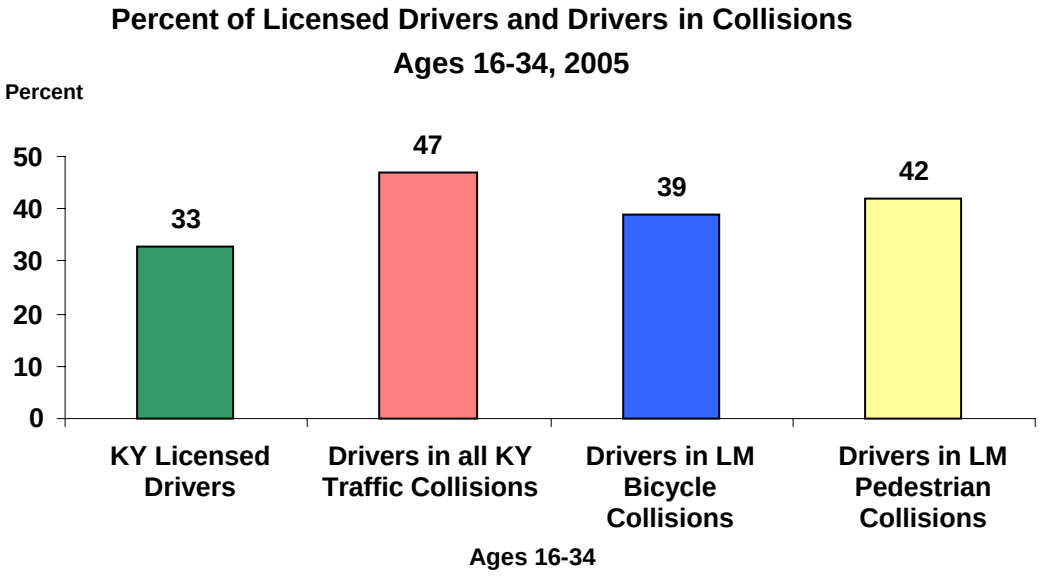



Males were more likely to be involved in these collisions. Over fifty percent of the drivers involved in bicycle and pedestrian collisions were males (55% in pedestrian collisions and 51% in bicycle collisions). The bicyclists and pedestrians involved in these collisions were predominantly male as well (85% for bicyclists and 59% for pedestrians).

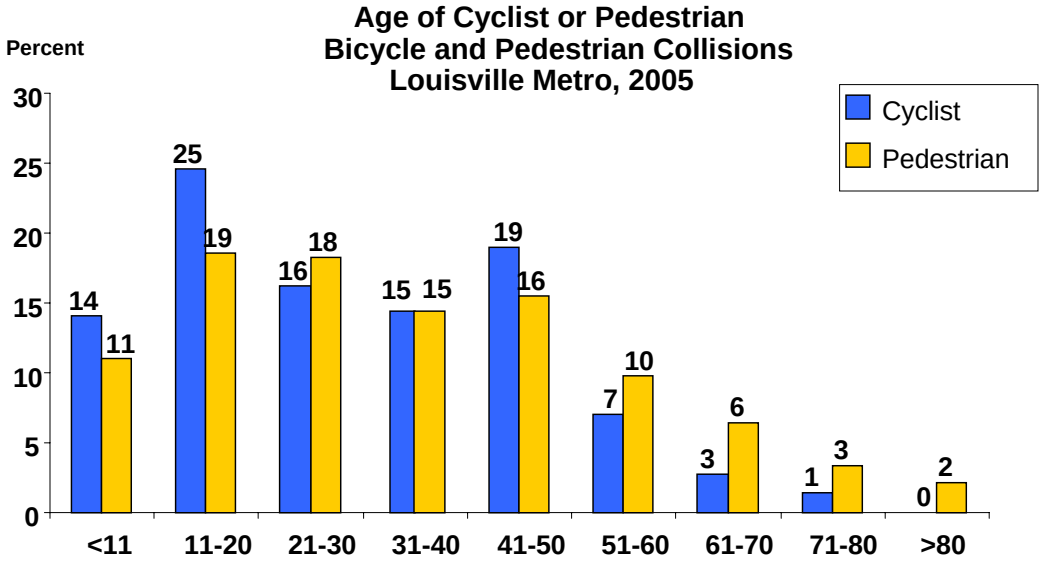




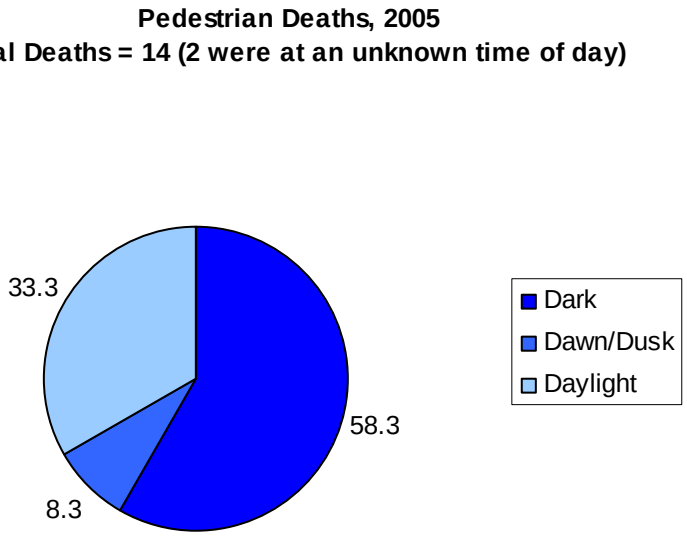

Based on the percentage of licensed drivers in the state of Kentucky, motor vehicle operators ages 16 to 34 years are over-represented as the drivers in all Kentucky collisions.[6] They are also over-represented in bicycle and pedestrian collisions in Louisville Metro.



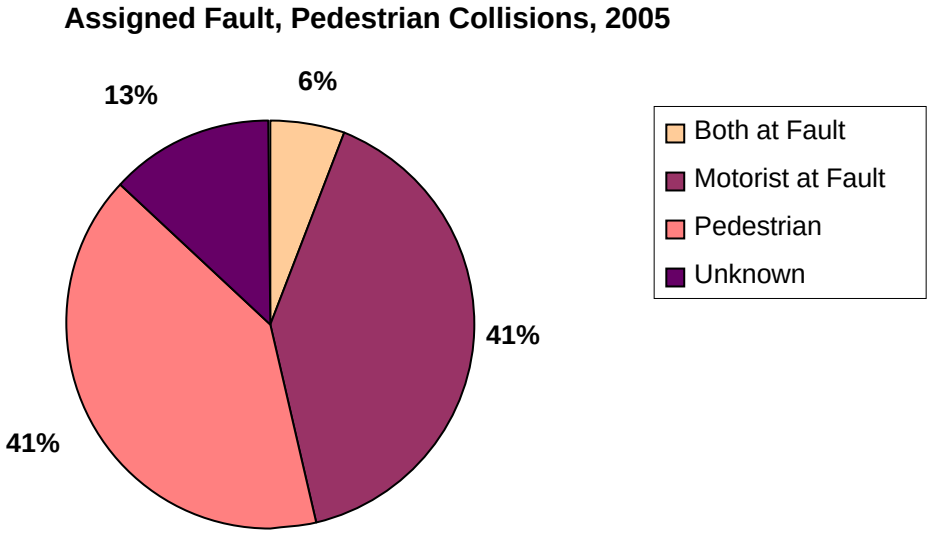
Nearly 40% of the cyclists and 30% of the pedestrians involved in these collisions were twenty years of age or younger. Since this age group represents 28% of the population in Louisville Metro, they are over-represented in these collisions compared to their proportion in the Louisville Metro population.



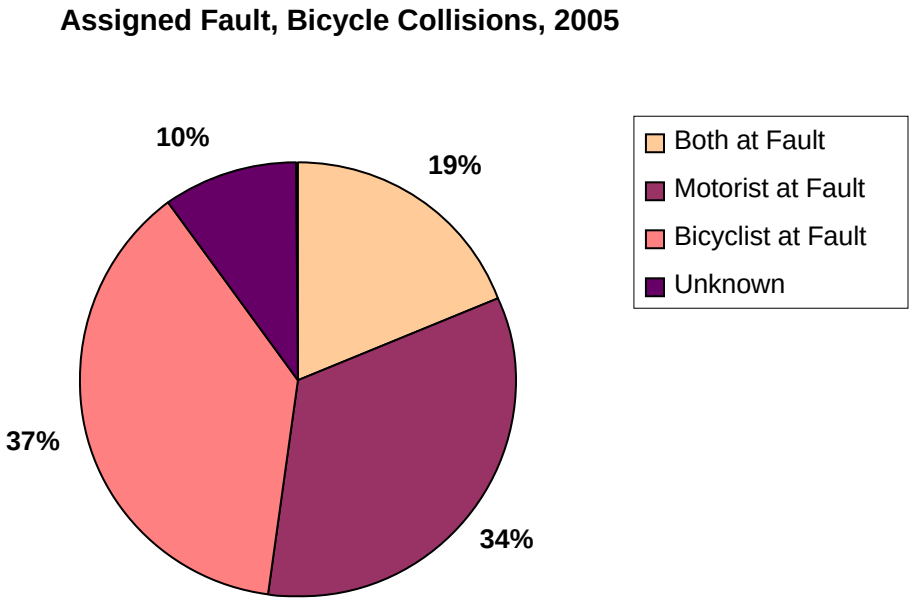
Of the twelve pedestrian deaths in 2005 where the time of day was know, seven (or 58%) resulted from collisions during hours of darkness and one (or 8%) was during dusk or dawn. Additional analysis revealed a positive and significant ($p < 0.05$) relationship between the degree of darkness and the severity of injury for pedestrians in these collisions. The positive relationship means the darker it is outside, the more severe the injury is to a pedestrian struck by a motor vehicle. The fact that it is a significant relationship means this relationship is not due to coincidence or chance.




In the pedestrian collisions where fault could be determined, the pedestrian and motorist were each assigned exclusive fault in 41% of the collisions. Both the pedestrian and the motorist were at fault in six percent of the collisions. In the fourteen fatal pedestrian collisions, the pedestrian was at fault in eight deaths, the driver was at fault in three deaths, and fault could not be determined in the other three deaths.




In 37% of the bicycle collisions, the bicyclist was determined to be primarily at fault. The motorist was deemed primarily responsible in 34% of the collisions, and both were assigned fault in 19%.



## Intentional Injuries

## Firearm Related Incidents

In 2006, there were 186 firearm related injuries or deaths in Louisville Metro. Of these incidents, 84% (or 156 incidents) were intentional. These included 72 assaults (not ending in the death of the victim), 35 homicides, 3 attempted suicides and 46 suicides.

## Homicide

### *What is it?*

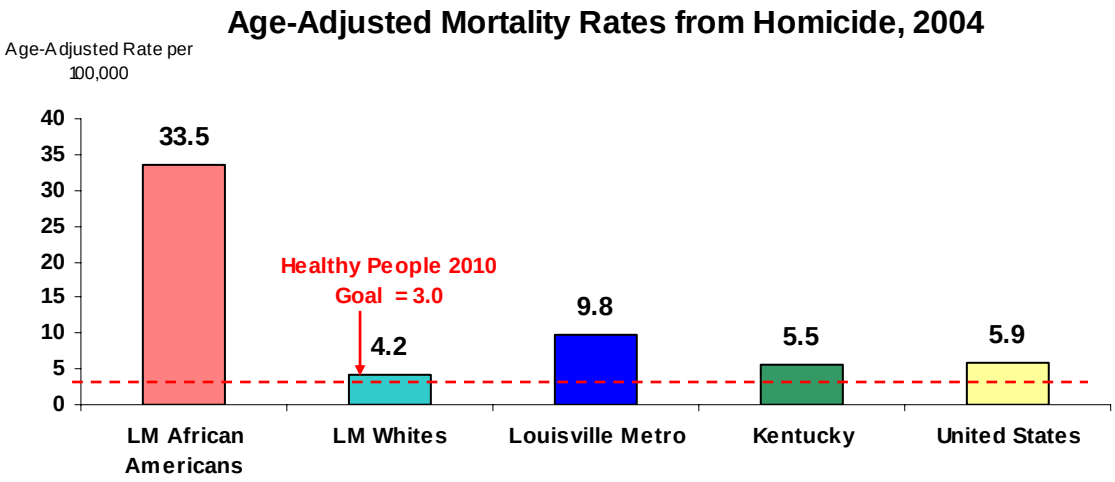
Homicide is the intentional infliction of injury to another person that results in death. For purposes of this document, homicide does not include deaths that result from legal intervention or war operations.

### *Why is it important?*

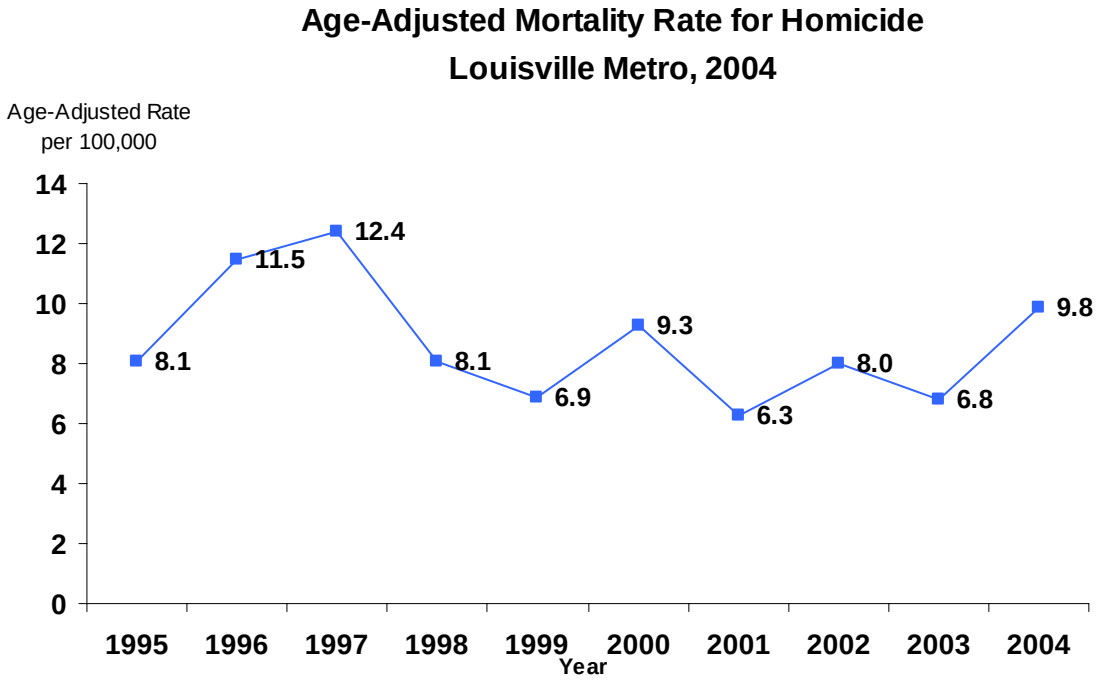
In 2004, there were 16,611 homicides in the United States. The age-adjusted mortality rate from homicide in the nation for 2004 was 5.6 deaths per 100,000 population.[2] Overall, homicide is the fifteenth leading cause of death, but is ranked second for people 15 to 24 years of age.[1] Mortality from homicide is particularly high among African Americans. It is the sixth leading cause of death for African Americans[2] and is the leading cause for African Americans 10 to 24 years of age.[7]

### *What is Louisville Metro's status?*

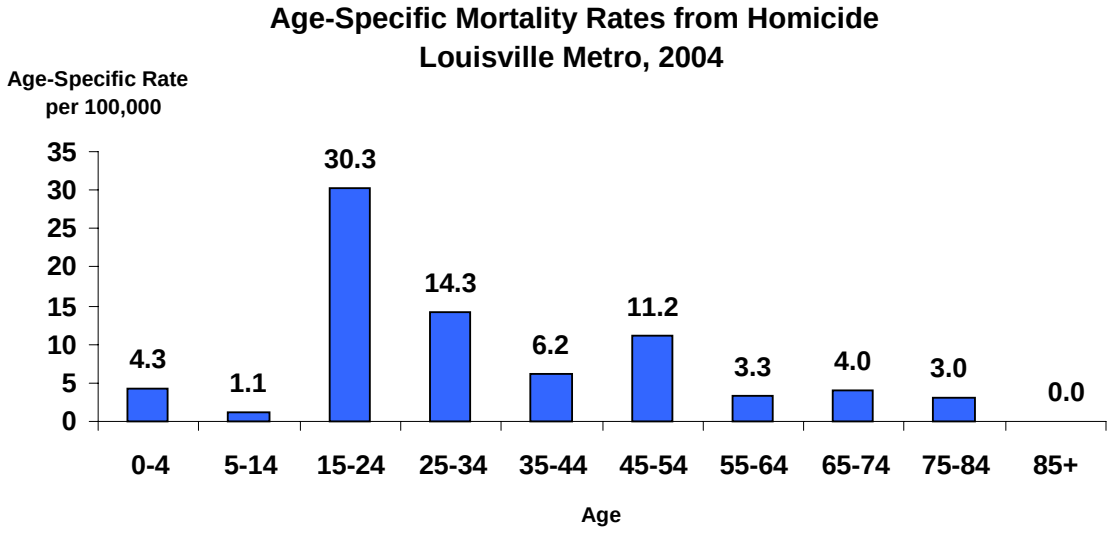
The age-adjusted mortality rate from homicide in Louisville Metro for 2004 of 9.8 deaths per 100,000 population was higher than both the state (5.5) and national rates (5.9).[2] The Louisville Metro rate was more than triple the Healthy People 2010 goal of 3.1 per 100,000 population.[5] For Louisville Metro African Americans, the age-adjusted death rate from homicide was 33.5 per 100,000 population, which was approximately eight times higher than the rate for Louisville Metro Whites (4.2).



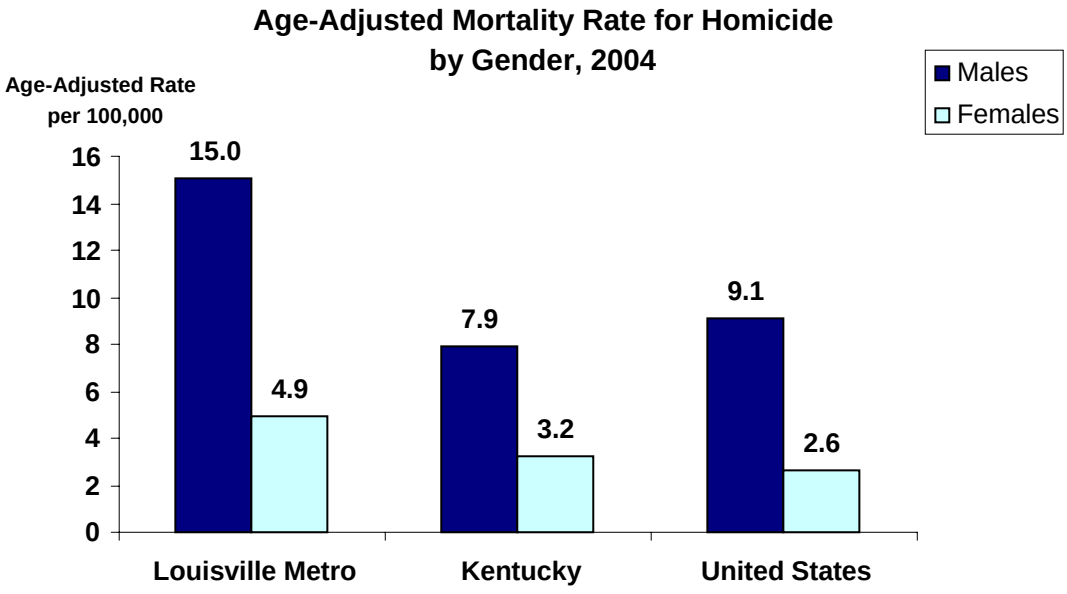

From 1995-2004 homicide death rates have ranged between 6.3 to 12.4 per 100,000 population. The year-to-year changes in the homicide rate have been both increases and decreases, but overall there has not been a consistent trend over time.



In 2004, the Louisville Metro age-specific mortality rates from homicide were highest for the age groups of 15 to 24 years and 25 to 34 years of age.




In 2004, the Louisville Metro age-adjusted homicide death rate for males was more than three times that for females. Kentucky and United States age-adjusted homicide mortality rates for males was more than double that for females.[5]



## *What are we doing?*

Community efforts toward preventing morbidity and mortality from injury in Louisville Metro are spread across a number of public and private entities, including public health, law enforcement, public safety, and regulatory agencies. Louisville Metro Public Health and Wellness has a number of programs that are designed to impact morbidity and mortality from injury.

The Health Emergency Action Team (HEAT), a unit within the Department's Division of Environmental Health and Protection, is specially trained and equipped to respond to the release of chemical, biological, radiological and other hazardous materials. HEAT environmentalists serve as members of Louisville Metro's multi-agency Haz-Mat team. During an incident, HEAT members assist the incident commander in mitigating the release. Once the release has been mitigated, the Department of Public Health and Wellness assumes incident command and supervises the remediation of the spill to ensure that it is completed safely and effectively. HEAT members also investigate complaints of improper storage, handling, or disposal of hazardous substances and respond to complaints of potentially toxic indoor air quality.

Louisville Metro Public Health and Wellness monitors the safety and water quality of public swimming pools and other bathing facilities throughout Louisville Metro. Each public pool is inspected at least twice each year for compliance with safety regulations and water quality. They also test and certify all lifeguards and pool attendants. This certification requires documentation of basic lifeguarding, CPR and first aid training, as well as successful completion of the annual water safety skills examination.

Louisville Metro Public Health and Wellness also conducts community health education programs that emphasize injury prevention. Examples include water and boating safety education for school children.

To protect infants and children while riding in motor vehicles, the Department provides child safety seats for children between the ages of birth and four years old, who weigh 5 to 40 pounds. Parents or guardians are taught how to properly install the seat as well as how to properly secure the child in the seat.

Louisville Metro Public Health and Wellness is a member of Safe Kids Louisville and Jefferson County, a program led by Kosair Children's Hospital. Because the leading cause of death and disability for children 17 years old and younger is unintentional injury, Safe Kids is comprised of public, private and voluntary organizations that work to prevent these injuries or to reduce the severity of such injuries if they occur. The mechanisms of injury that have been targeted are falls, drowning, burns, poisoning, choking, pedestrian and bicycle-related injuries, and injuries to motor vehicle occupants. The local Safe Kids members, in conjunction with SAFE KIDS Worldwide, conducts public outreach and awareness campaigns, distributes safety devices, and conducts hands-on educational activities for children and their families.

The Louisville Metro Department of Planning and Design Services has a Bicycle and Pedestrian Coordinator who oversees a Bicycle and Pedestrian Program. The program began in 2000 and promotes education, engineering changes, and enforcement of laws related to bicycle and pedestrian travel and safety. In February of 2005 they organized the Mayor's Louisville Bicycle Summit. The results of the Summit included proposed goals for supporting bicycling in the Louisville Metro community. From these goals and other input, the Bicycle and Pedestrian Coordinator is developing a strategic plan for improving bicycling and walking in Louisville Metro.

In addition, the Mayor's Healthy Hometown Movement promotes the use of bicycling and walking as ways to keep healthy and avoid being overweight or obese. This Movement increases awareness of behavioral health risk factors and encourages healthy eating and physical activity.

## *What else do we need to do?*

The deaths and injuries reported in this section are the result of unintentional or accidental harm or intentional harm in the case of homicide. Because all of these deaths and injuries are avoidable, we need to work harder to prevent the conditions that lead to these deaths. All of the related prevention efforts in the community are making a difference, but we need to work harder to implement education, enforcement, and engineering opportunities and knowledge to continue to decrease the injuries and deaths due to unintentional accidents and intentional assaults and homicides.

The Federal Highway Administration has a new guide to address pedestrian safety.[8] This guide includes crash typing the collisions and identification of countermeasures to prevent that type of crash. The countermeasures offered include possibilities for engineering changes, education, encouragement and enforcement. A similar guide for bicycle collisions is under development. These resources should be used to investigate and guide the implementation of counter measures for the types of crashes that occur in Louisville Metro.

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## Lead Exposure

*What is it?*

Childhood Lead Poisoning (CLP) remains one of the major public health problems in the United States today.[1] Lead is a durable metal that was used for many years in and around our homes. Lead is highly toxic and can cause a range of health effects.[2] Lead has no known physiologic value.[3] Children six years old and under are most at risk from the harmful effects of lead poisoning because their bodies are growing quickly and lead is easily absorbed into their growing bodies.[2] Infants and young children are also susceptible to lead exposure because they often put objects in their mouths. They may eat or chew paint chips, or their hands or other objects placed in their mouths may be contaminated with lead dust.[4]

Lead poisoning was viewed largely as an occupational disease in adults until the beginning of the 20th century. In the 1890's lead paint poisoning was recognized in children.[5] Most cases of CLP in the United States are related to the ingestion of lead through contaminated house dust by way of hand to mouth activity and oral behaviors in young children.[6] However, other unexpected sources of lead in the home account for occasional cases of childhood lead poisoning.

## *Why is it important?*

Blood lead levels (BLLs) of 10µg/dl or greater are associated with adverse effects in children, including abnormal cognitive development, behavior problems, decreased intelligence, and poor school performance.[7] There has been a significant decline in blood lead levels from 1976 to 2000. This decline represents an environmental public health success story.[7]

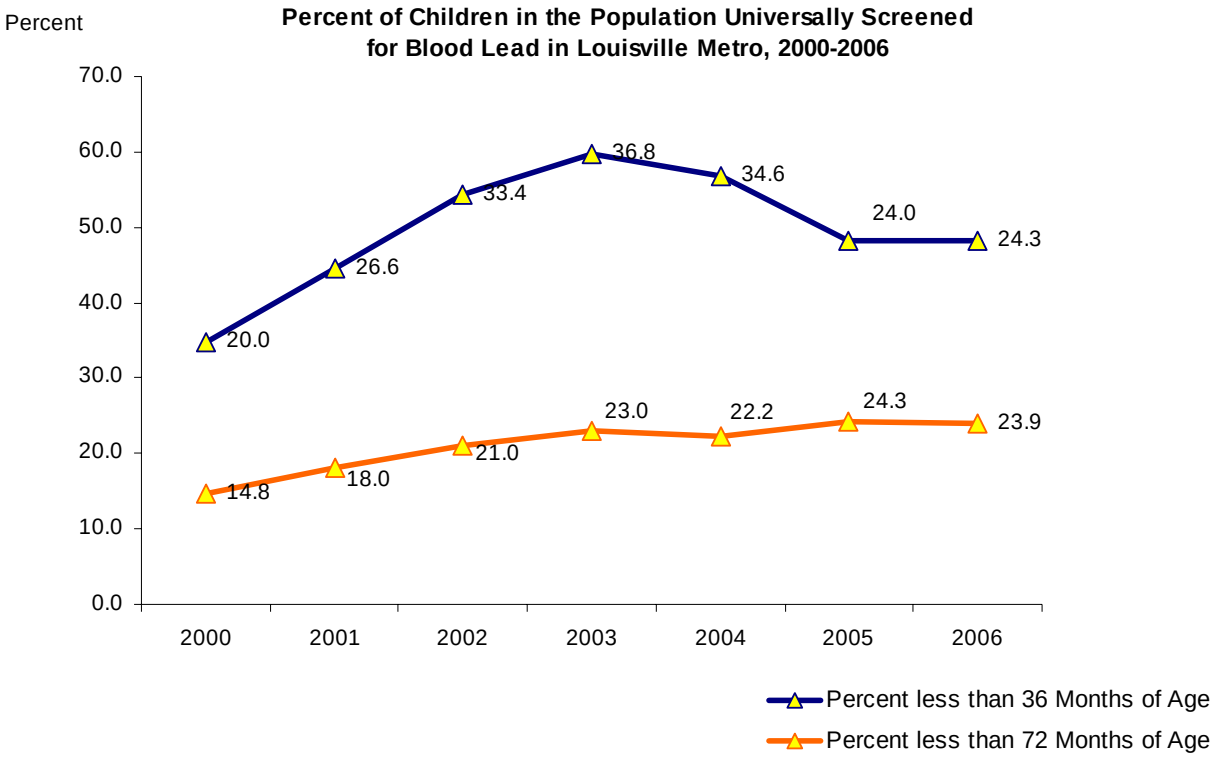
In 1997, the CDC proposed new guidelines to be used by state and local health officials. The new guidelines target lead screening efforts in areas where lead risks are significant. In particular, the guidelines recommend that state and local health officials determine appropriate screening policies by targeting their efforts to children who live in older homes and children from low-income families.[8] To develop such plans, the CDC recommends that state health departments assess local data on BLLs and risk factors. If no statewide plan exists, states should screen virtually all young children, as recommended in the 1991 edition of *Preventing Lead Poisoning in Young Children.*[9] Because young children living in poverty are at high risk for elevated BLLs, the CDC recommended various strategies for increasing blood lead screening for all such children, including young children enrolled in Medicaid.[9] Specifically, the CDC recommends that children who receive Medicaid benefits should be screened unless there is reliable, representative blood lead data that demonstrate the absence of lead exposure among this population.[9]

In 1978, approximately 13.5 million children in the United States were affected by lead poisoning.[2] By 2002, according to the Centers for Disease Control, that number had decreased significantly to 310,000 children.[2] Lead poisoning is an issue that crosses all socioeconomic groups, geographic locations, racial and ethnic populations. It is not solely a problem of inner city or minority children.[3] Both rural children and those from moderate to high socioeconomic status also may be exposed to lead.[10]

## *What is Metro Louisville's status?*

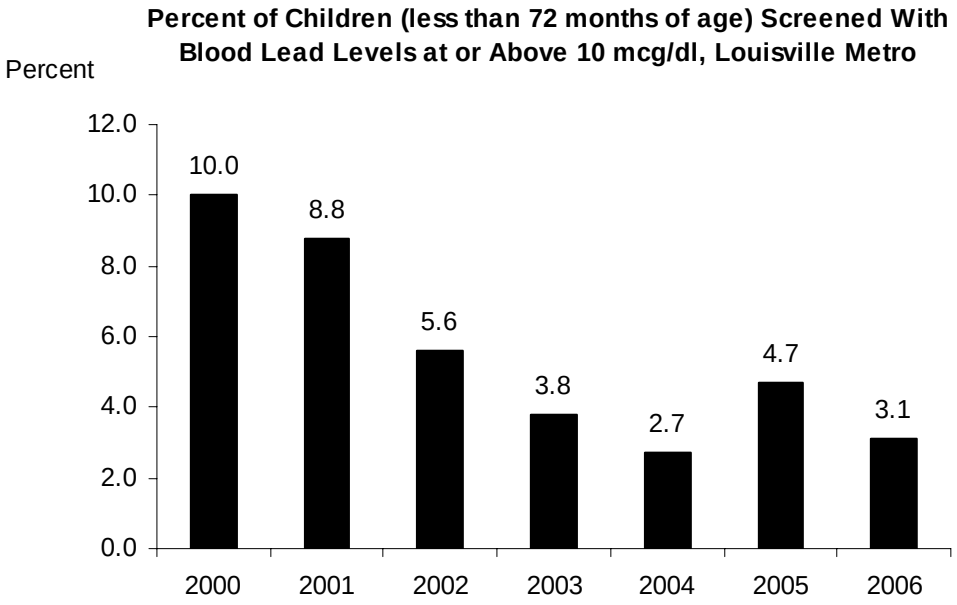
Louisville Metro Public Health and Wellness Childhood Lead Poisoning Program (CLPPP) continues to provide universal screening in addition to targeted screening.

The following chart shows the percent of children screened with a blood lead test in Louisville. The chart reflects two age groups; the blue line represents children less than 36 months, while the orange line represents all children less than 72 months of age. The percent of children screened from 2000-2003 increased, while the percent decreased in 2004. In 2005, the percent of children less than 36 months continued to decline while screening for the less than 72 months group increased. The percentage of children screened in 2006 remained relatively the same.

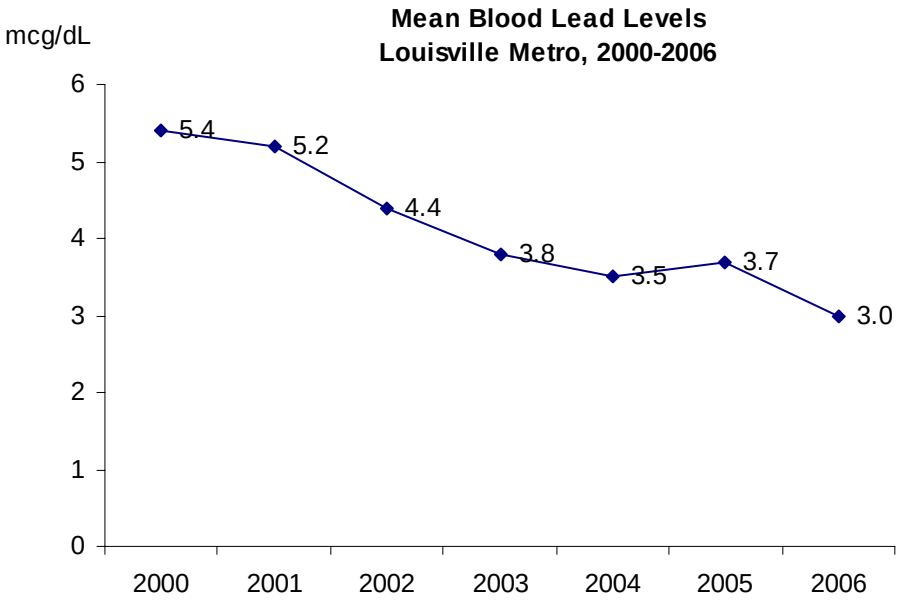



The percentage of children screened with elevated blood lead levels (EBLL) equal to or greater than 10 µg/dL decreased from 10 percent in 2000 to 2.7 percent in 2004. The decline can be attributed to the inclusion of private laboratory screening results, which began in 2001, combined with the LMPHW laboratory results. This collaboration has allowed the LMPHW CLPPP to gain better assessment of the community and the number of children with blood lead levels at or above 10 µg/dL.

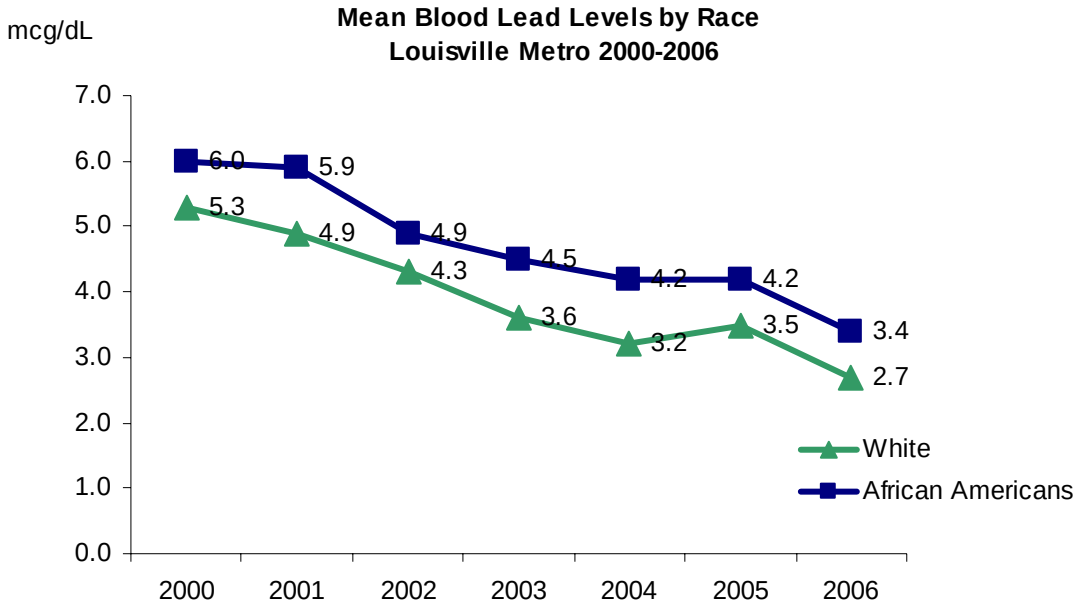
In 2005, 4.7 percent of children screened had blood lead levels equal or greater than 10µg/dL. In 2006 the percentage decreased to 3.1. The increase in 2005 was due to CLPPP's greater emphasis on screening Head Start children, new immigrants and the refugee population in all of Louisville.



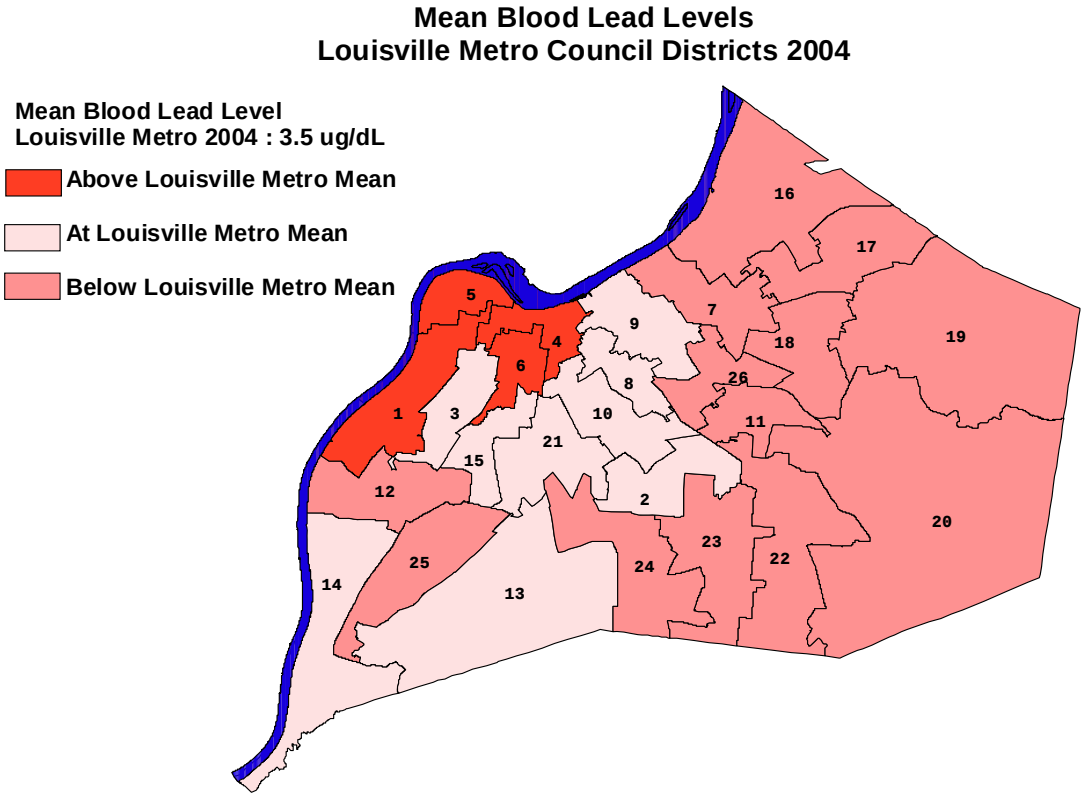

The mean blood lead levels for children less than 72 months in Louisville have consistently declined. In 2000, the mean was 5.4 µg/dL and decreased to 3.5 µg/dL in 2004. The mean blood lead level increased in 2005 to 3.7 µg/dL. The year 2006 continued to follow the declining trend from the years 2000 to 2004.



In Louisville Metro, as observed across the nation, the mean blood lead level for African Americans is higher than that of Whites. The above graph displays the mean blood lead levels for both African-Americans and Whites in Louisville Metro from 2000 to 2006. In 2000 the mean BLL was 6.0 µg/dL for African Americans compared to 5.3 µg/dL for Whites. Both races have seen a decline in the mean blood lead level. In 2006 the mean was 3.4 µg/dL for African Americans and 2.7 µg/dL for Whites. The overall mean blood lead level for Louisville Metro was 3.0 µg/dL for the year 2006.



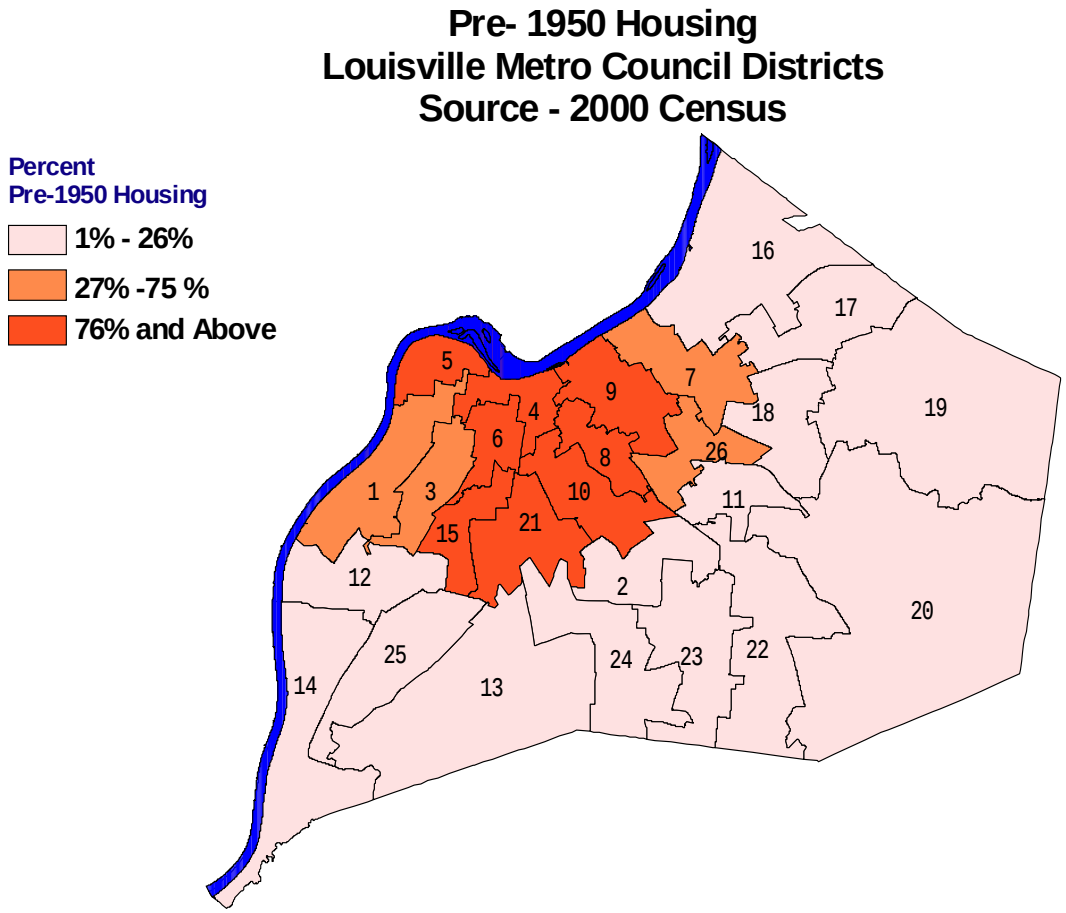
This map of Louisville Metro council districts depicts the distribution of mean blood lead levels for 2004. On this map, the council districts with the darkest shading (four council districts) are characterized with a mean BLL above the overall mean BLL of 3.5 µg/dL. The council districts with the lightest shading (nine) are characterized with a mean BLL of 3.5 µg/dL and the council districts with medium shading (thirteen) are characterized with a mean BLL below Louisville Metro's mean. All mean BLLs in Louisville Metro are above the national mean BLL of 2.2 µg/dL.




Lead poisoning is a result of ingestion or inhalation of lead. For young children, exposure to lead is most frequently from dust and paint chips from old lead painted surfaces, most commonly where they live and play. Therefore generally children, who reside in older housing, are at greater risk. The map shows the percentage of existing housing units constructed before 1950 (when paint had the highest lead content) in the Louisville Metro areas depicted by council districts for comparison with mean blood lead data.

The dark shaded council districts indicate districts with a 76 percent or greater of pre-1950 housing units, the medium shaded council districts represent 27 to 75 percent of pre-1950 housing units and the lightest shaded council districts represent 1 to 26 percent of pre-1950 housing units.

When the percentage of housing units built before 1950 is 27% or higher, the neighborhoods are considered to be at higher risk for lead poisoning. CDC guidelines endorse universal screening of children 1 and 2 years old in areas with 27% or more of housing units built before 1950 due to the higher risk for blood lead poisoning.




Age and condition of housing units, not the geographic location, are the most important predictors for the presence of hazards related to lead-based paint.

## *What are we doing?*

Louisville Metro Public Health and Wellness' Childhood Lead Poisoning Prevention Program (CLPPP) continues to provide blood lead screening, medical case management, health education and awareness, and environmental intervention to reduce lead exposure and create a lead safe Louisville.

CLPPP partners with several community agencies to address the lead problem. CLPPP works with the Louisville Metro Housing and Community Development on a Housing and Urban Development (HUD) grant project, Lead Safe Louisville, to remediate houses that have lead hazards. CLPPP works with representatives from Catholic Charities and Kentucky Refugee Ministries to address the growing lead poisoning problem among the immigrant population. CLPPP also works with the Metro Department of Inspections, Permits, and Licenses and the Louisville Housing Authority to reduce and eliminate sources of lead exposure.

As part of CLPPP's emphasis on primary prevention, health education activities highlight precautions to address lead-based paint, and also educate Louisville Metro citizens to pay attention to other lead sources such as industrial and occupational exposures, consumer goods, hobbies, and home remedies.

CLPPP actively participates in the Kentucky Statewide Childhood Lead Poisoning Prevention Advisory Committee to implement a statewide childhood lead poisoning strategic elimination plan.

## *What else do we need to do?*

CLPPP's Childhood Lead Poisoning Elimination Plan remains committed to the goals of Healthy People 2010: to eliminate elevated blood lead levels (those at or above 10 μg/dL) in children by 2010.

CLPPP must increase primary prevention measures to successfully eliminate childhood lead poisoning. To this end, CLPPP will address housing and non-housing sources of lead exposure in its outreach campaigns and seek to obtain more support from a broader group of partners (expand Lead Coalition membership to include Louisville Metro Council District representatives, city housing officials, and other key stakeholders) who care about children and the environment in which children live and play.

CLPPP should increase its collaboration with Passport to coordinate outreach to Medicaid recipients and Medicaid providers in Louisville Metro targeting the highest concentrations of our Medicaid-eligible population.

CLPPP also should work in the future to simplify the process of sharing housing data and blood lead testing information with its coalition partners. This will foster a united front in the work to reduce lead hazards and eventually prevent lead poisoning in children. Finally, CLPPP must increase its work with educational and professional entities to educate the public on childhood lead poisoning prevention.

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## Communicable Diseases

One way to examine the status of a community's health is to look at the incidence (number of new cases reported) of communicable diseases. The table below contains the number of new case reports and the rates per 100,000 population during the year 2005 for selected communicable diseases for Louisville Metro, Kentucky, and the United States. The table includes, for comparison purposes, the rate for state and national goals as defined in the Healthy Kentuckians 2010[1] and Healthy People 2010[2] reports respectively, if a goal has been identified.

**Communicable Disease Rates, 2005**
**(Rate = Incidence per 100,000 Population)**

| | Louisville Metro | Kentucky | U.S.A. | State Goal | U.S.A. Goal |
|---|---|---|---|---|---|
| **Population Estimates** (denominator) | 699,051 | 4,172,608 | 296,507,061 | | |
| **AIDS** (Rate) | 10.7 | 6.2 | 14.2 | 5.4 | 1.0 |
| **AIDS** (Case Count) | 75 | 257 | 41,993 | | |
| **Primary and Secondary Syphilis** (Rate) | 5.6 | 1.2 | 2.9 | 0.27 | 0.2 |
| **Primary and Secondary Syphilis** (Case Count) | 39 | 52 | 8,724 | | |
| **Gonorrhea** (Rate) | 198.4 | 70.3 | 114.5 | 55.0 | 19.0 |
| **Gonorrhea** (Case Count) | 1,387 | 2,935 | 339,593 | | |
| **Chlamydia** (Rate) | 356.9 | 199.4 | 329.3 | 140.0 | NRG |
| **Chlamydia** (Case Count) | 2,495 | 8,321 | 976,445 | | |
| **Tuberculosis** (Rate) | 4.4 | 3.0 | 4.8 | 1.0 | 1.0 |
| **Tuberculosis** (Case Count) | 31 | 127 | 14,517 | | |
| **Pertussis** (Rate) | 10.4 | 3.7 | 8.6 | NRG | NRG |
| **Pertussis** (Case Count) | 73 | 155 | 25,616 | | |
| **Measles** (Rate) | 0.0 | 0.00 | 0.02 | 0.0 | 0.0 |
| **Measles** (Case Count) | 0 | 0 | 66 | | |

NRG = No Related Goal
State Goal from Healthy Kentuckians 2010
U.S.A. Goal from Healthy People 2010
The AIDS case count for 2005 is provisional due to reporting delays and is subject to change

## AIDS

### *What is it?*

Acquired Immunodeficiency Syndrome (AIDS) is the most advanced stage of illness that occurs following infection with the human immunodeficiency virus (HIV). HIV infection progressively destroys a body's ability to protect itself from infection. A person with HIV infection is diagnosed as having AIDS when their body produces abnormally low numbers of white blood cells. A person with AIDS thus becomes ill with opportunistic infections that normally do not affect healthy people.

HIV is transmitted from person to person through contact with body fluids, including blood, semen, vaginal secretions, and breast milk. The most common behaviors associated with a risk for infection (modes of exposure) are sexual contact with or sharing needles or syringes used by HIV infected people. HIV can also be transmitted from women to their babies during pregnancy, delivery, or through breast-feeding.

### *Why is it important?*

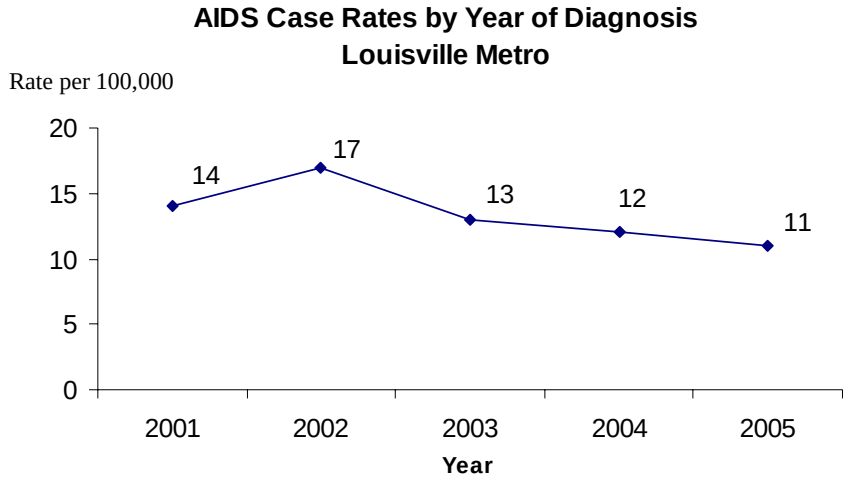
HIV is a life-threatening illness with millions of new cases reported worldwide each year. There is no cure for HIV/AIDS and no vaccine to prevent HIV infection. Antiretroviral medications can prevent the worsening of the disease, but these therapies do not cure the infection and can have severe side effects.

Communities monitor the rate of new HIV infection and the rate of new AIDS cases. Information gathered from HIV or AIDS positive individuals has been used to identify behaviors that place people at risk for the HIV infection. From looking at the data, we now know sexual activity and sharing needles or syringes are common methods by which the disease is spread.

Since AIDS follows HIV infection, the number of new AIDS cases diagnosed in members of a community can be used as an indirect measure of HIV infection. However, the most sensitive measure of the rate of new HIV cases is a count of those individuals who are newly diagnosed with HIV infection. During the years covered by the data shown in this report, neither Louisville Metro nor the state of Kentucky had mandatory reporting of confirmed HIV infection without a diagnosis of AIDS. In the absence of HIV reports, Louisville Metro Public Health and Wellness used newly diagnosed AIDS cases as a measure of HIV infection in the community.

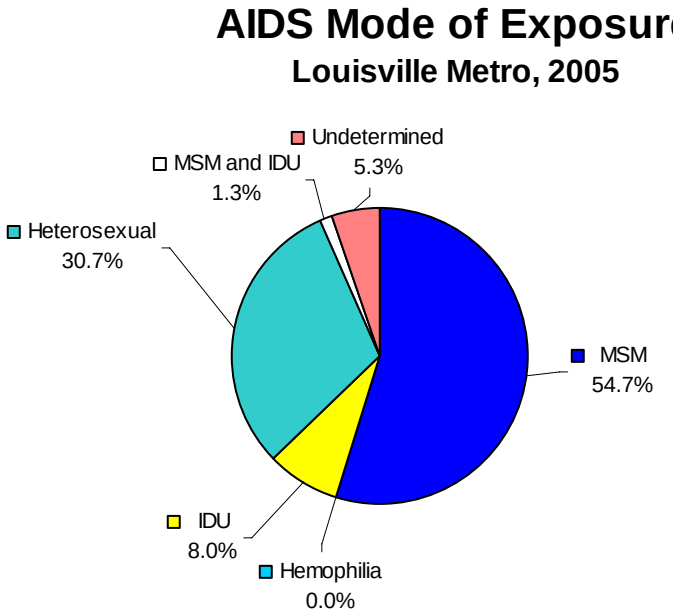
### *What is Louisville Metro's status?*

There are substantial reporting delays associated with an AIDS diagnosis. The case count reported for 2005 is provisional due to those reporting delays and is subject to change. AIDS incidence rates have remained relatively constant over the past five years with a slight downward trend from 14 to 11 per 100,000. The 2005 rate is about two times the goal of Healthy Kentuckians 2010 (5.4 per 100,000 persons)[1] and more than 10 times the goal of Healthy People 2010 (1 per 100,000).[2]

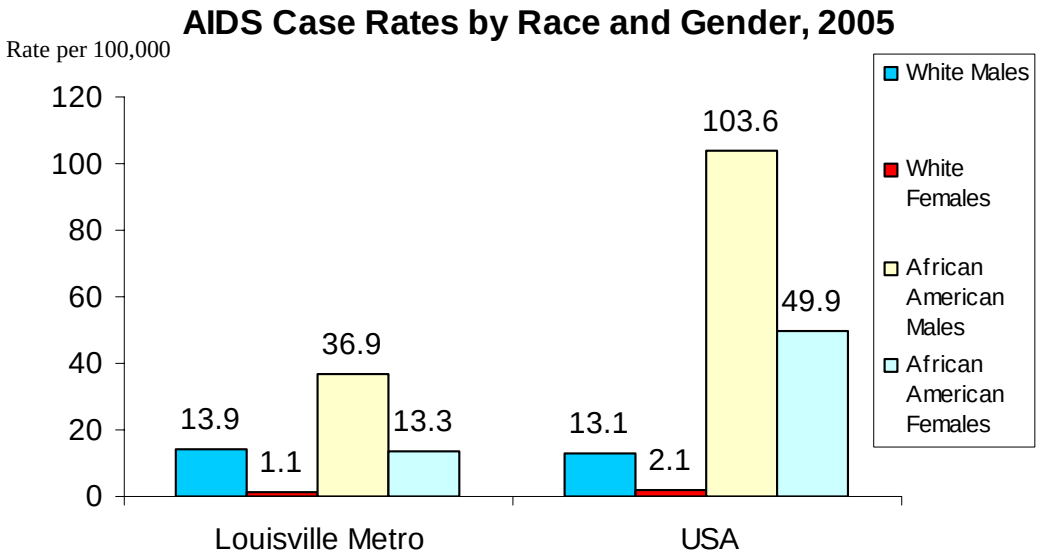



A change in AIDS case rate could be caused by a change in the number of new people in the community who have HIV infection, since HIV infection is a prerequisite for AIDS. It could also be influenced by the relative effectiveness of antiretroviral therapy. In the absence of named HIV reporting, we cannot distinguish between those two potential causes for changes in the rate.

Of the total number of new AIDS cases diagnosed in 2005, men who have sex with men (MSM) was the predominant mode of exposure (54.7%), followed by heterosexual contact with HIV-infected individuals (30.7%), and injection drug use (IDU) at 8%. Approximately 5.3% of the new AIDS cases indicated no behaviors that placed them at risk for HIV infection, while 1.3% indicated they had multiple modes of exposure (MSM and IDU).[3]



When examining reported cases of AIDS in the United States, African Americans have a higher rate than Whites. The rate of new AIDS cases reported in 2005 for Louisville Metro White males and females were similar to national rates. Although lower than the national rates for African Americans, Louisville Metro African American rates were higher than those for Louisville Metro whites.[3, 4] It is important to remember that these rates reflect the cases that are reported by health care providers in the community.



## Primary and Secondary Syphilis

### *What is it?*

Syphilis is a sexually transmitted disease caused by the *Treponema pallidum* bacterium. The organism is transmitted from an infected individual when one has direct contact with an infected person's sores. The sores can be found on the external genitals, the vagina, anus, rectum, mouth, or lips. Unprotected anal, oral, or vaginal sex with an infected individual is a mode of exposure for syphilis. In addition, pregnant infected women can transmit the disease to their babies.

Primary and secondary syphilis cases represent individuals recently infected with syphilis who are capable of transmitting the disease to uninfected people.

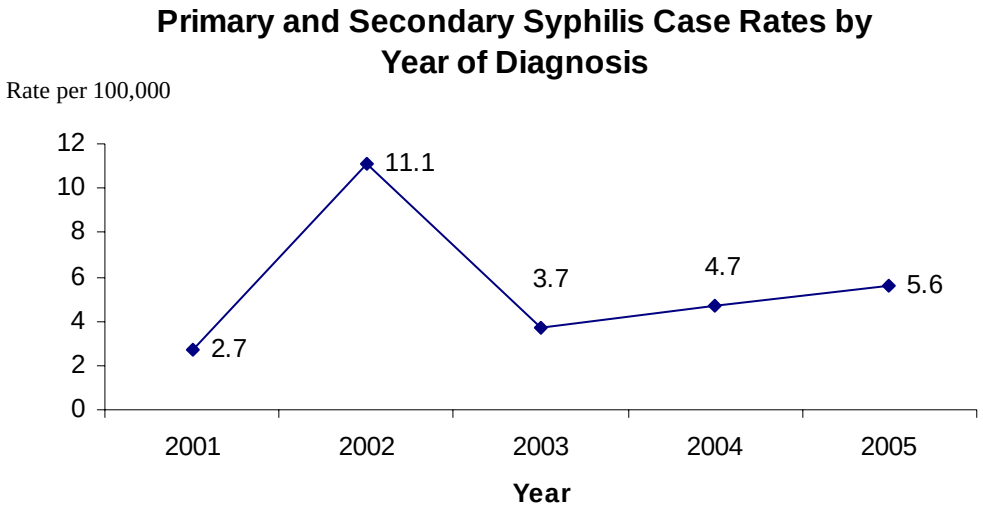
### *Why is it important?*

Syphilis is a sexually transmitted disease that has resulted in devastating epidemics. If the disease is untreated, the signs and symptoms that can develop as a result of a late stage of syphilis infection include difficulty coordinating muscle movements, paralysis, numbness, gradual blindness, dementia, even death.

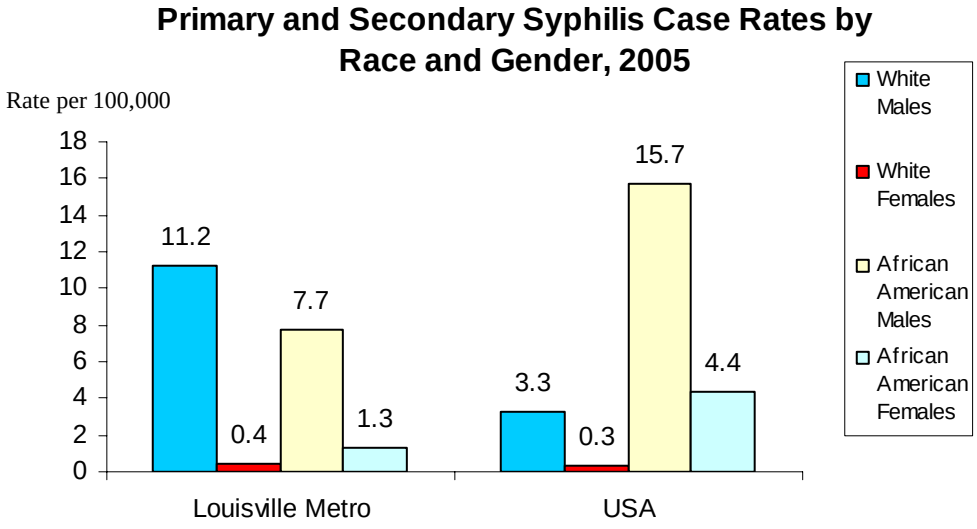
### *What is Louisville Metro's status?*

The rate of new primary and secondary syphilis cases in a community is an important health status indicator. The number of new cases of primary and secondary syphilis in our community increased from 33 cases in 2004 to 39 cases (5.6 per 100,000 population) in 2005.[5]

The rate of new primary and secondary syphilis cases in our community is more than 20 times higher than the goal of Healthy Kentuckians 2010 (0.27 per 100,000)[1] and Healthy People 2010 (0.2).[2] The rate for primary and secondary syphilis in 2005 is more than twice the rate in the United States.




Nationally during 2005 the rates of reported cases for African Americans males and females were higher than the rates seen in White males and females. However in Louisville, the rates for Whites were higher than the national rates for Whites and local African Americans. Louisville Metro African Americans reported rates less than the rates seen for the corresponding group at the national level.[5, 6] The unexpected number of cases among Whites can be explained, in part, by an increase in cases seen in the white MSM demographic in 2005.



## Chlamydia

### *What is it?*

Chlamydial infections are the most common reportable disease in the United States. These infections are caused by the *Chlamydia trachomatis* bacterium. Approximately 50% of infections in men and 75% in women did not involve obvious symptoms in the early stages. Individuals in the 15 to 24 year age group show the highest rates of infection.

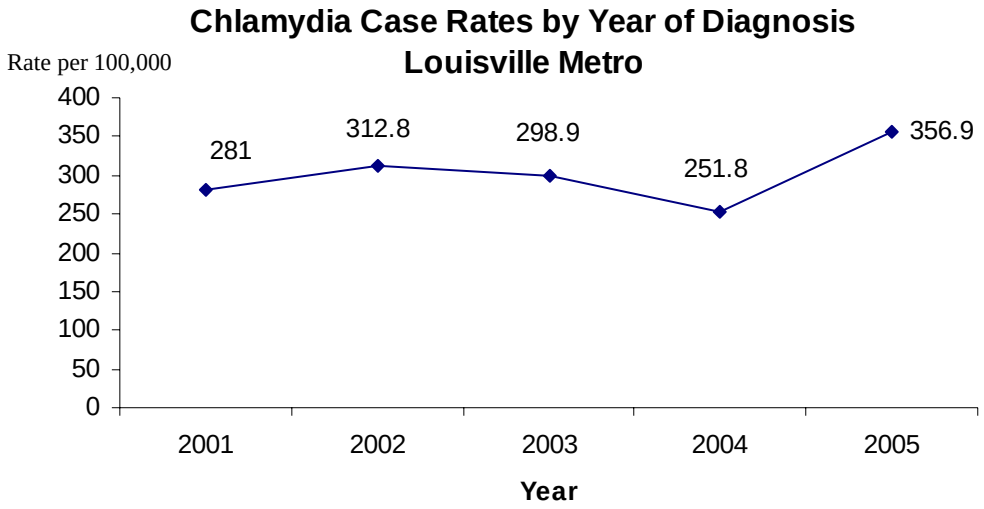
### *Why is it important?*

In women, chlamydial infections may result in pelvic inflammatory disease which can lead to infertility, ectopic pregnancy, and chronic pelvic pain. As with other inflammatory, sexually transmitted diseases, chlamydial infections can increase the transmission of HIV infection. In addition, pregnant women infected with chlamydia can pass the infection to their infants during delivery, causing eye infections and pneumonia.

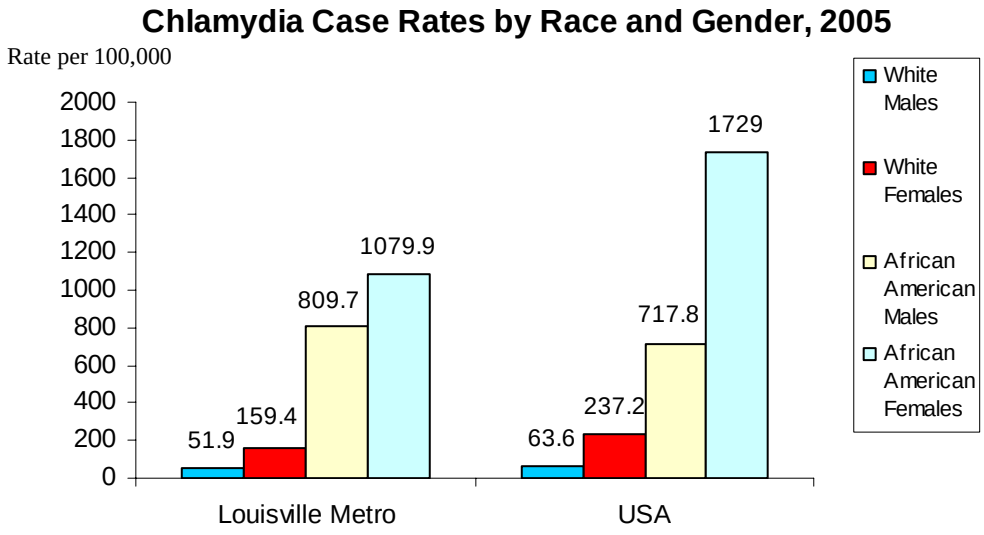
### *What is Louisville Metro's status?*

Nationally, rates of chlamydial infection increased in both men and women during the 1990s. This probably reflects an increase in the number of screening programs, sensitivity of the tests used to detect infection, and an emphasis on reporting by health care providers and laboratories. Although increases in rates of new infection were reported, the Centers for Disease Control and Prevention (CDC) still believe the disease is under-reported.

The number of new chlamydial infections per 100,000 population in Louisville Metro increased from a 5 year low in 2004 of 251.8 to 356.9 in 2005.[5] The number of cases reported in our community may reflect the intensity of our screening programs and the reporting of health professionals, rather than a true count of chlamydial infections. The rate of new chlamydial infections seen in Louisville Metro for 2005 (356.9 per 100,000) is higher than the rate seen in Kentucky (approximately 200 per 100,000) and national rate (approximately 330 per 100,000).




When examining reported cases of chlamydia, African Americans have a higher rate than Whites and females show higher rates than males at both the local and national level. Rates in each of the race/gender groups, except African American males, were lower in Louisville Metro than the rates for the corresponding group in the U.S. as a whole. [5, 6]



## Gonorrhea

### *What is it?*

Gonorrhea is a sexually transmitted disease caused by the *Neisseria gonorrhoeae* bacterium. *Neisseria gonorrhoeae* can live and grow in parts of a male or female's reproductive tract, anus, rectum, mouth, or eyes.

### *Why is it important?*

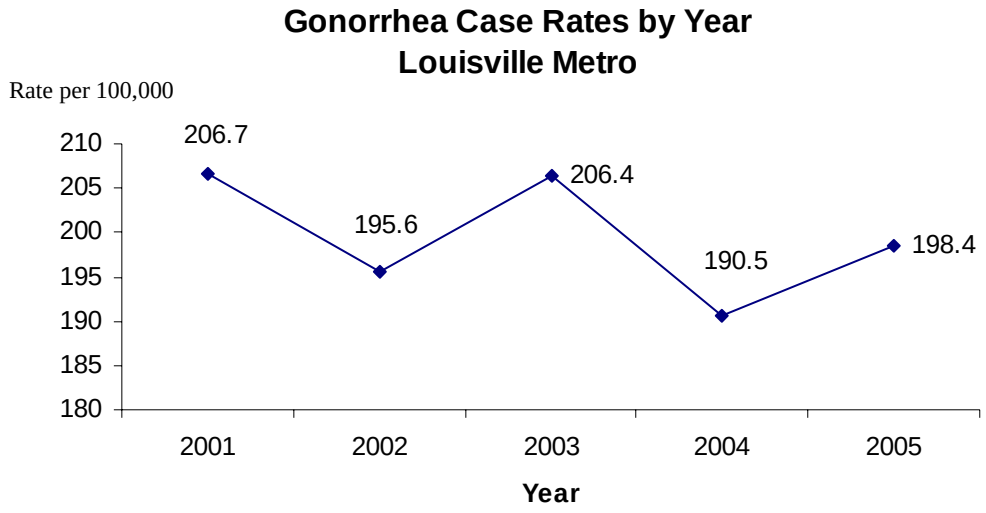
Like chlamydial infections, gonorrhea is a cause of pelvic inflammatory disease in women, a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. It can also be transmitted from mother to child during pregnancy. In men, gonorrhea infections can produce painful testicular infections that can lead to infertility.

In both men and women gonorrhea can also facilitate the transmission of HIV infection. It occasionally spreads to a person's blood or joints and becomes a life-threatening infection.

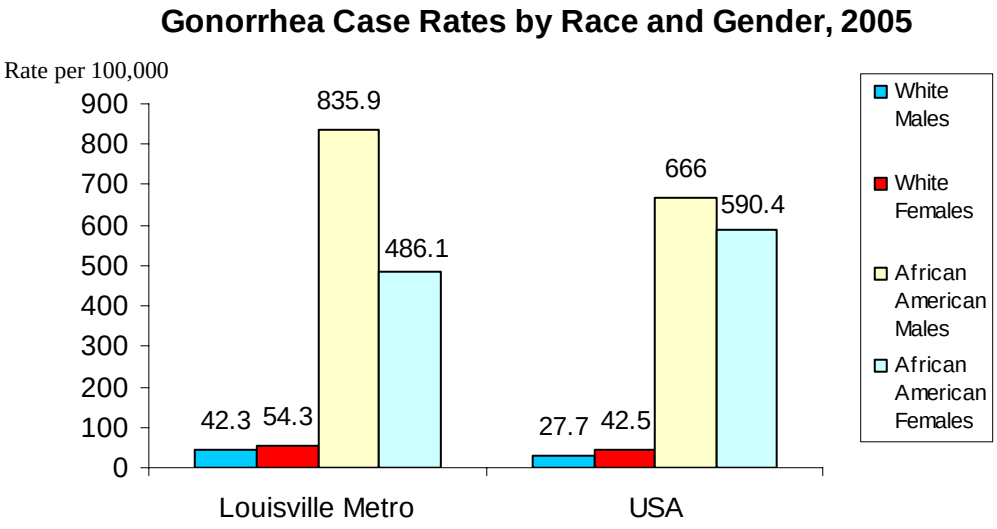
### *What is Louisville Metro's status?*

Nationally, the reported rate for gonorrhea in 2005 reversed the decline seen in previous years to record a rate of about 115 per 100,000 population. The number of new gonorrhea cases per 100,000 population in Louisville Metro has fluctuated over the past 5 years, displaying no consistent trend.[5] As is the case with chlamydial infections, the reports of gonorrhea in the community are influenced by many factors in addition to the actual incidence of the disease in the community.

The rate of new gonorrhea cases seen in 2005 (198.4 per 100,000) in Louisville Metro is almost three times greater than the rate seen in Kentucky and 10 times greater than the national Healthy People 2010 goal of 19 per 100,000 population. Overall rates for gonorrhea in 2005 are almost two times higher for Louisville Metro as compared to the nation.




The distribution of gonorrhea cases during 2005 by race and gender in Louisville Metro follows the pattern seen nationally, with rates much higher in African Americans than in Whites.[5, 6]



## Tuberculosis

### *What is it?*

Tuberculosis (TB) is a disease caused by the *Mycobacterium tuberculosis* bacterium. The bacteria can infect any part of the body, but commonly the lungs. TB can be spread through the air from one person to another. The bacteria are put into the air when a person with TB disease of the lungs or throat coughs or sneezes. People who are physically close to the infected individual may breathe in these bacteria and become infected.

### *Why is it important?*

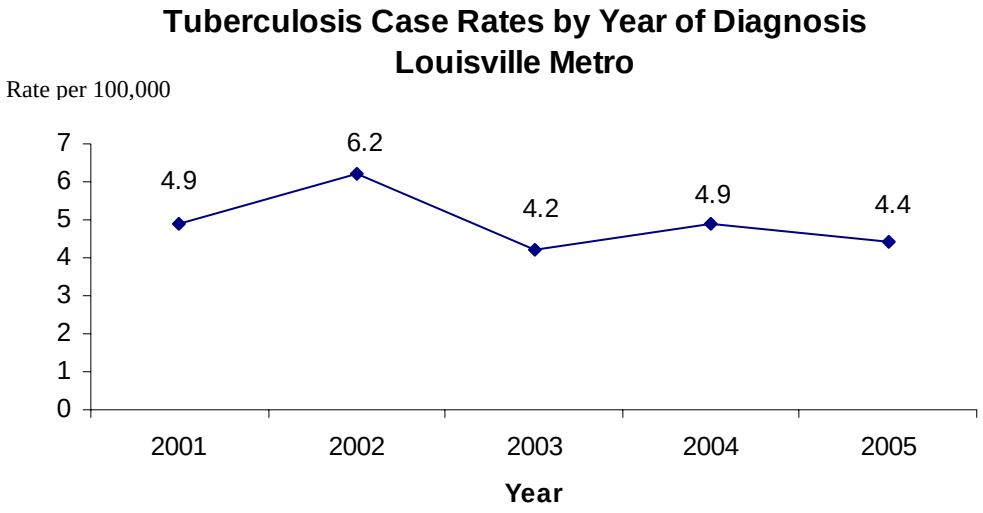
TB was once the leading cause of death in the United States. Although TB case rates declined after World War II, they increased, nationally, between 1985 and 1992. National TB case rates have been declining since then, but there were still over 14,000 cases in the United States in 2005.

### *What is Louisville Metro's status?*

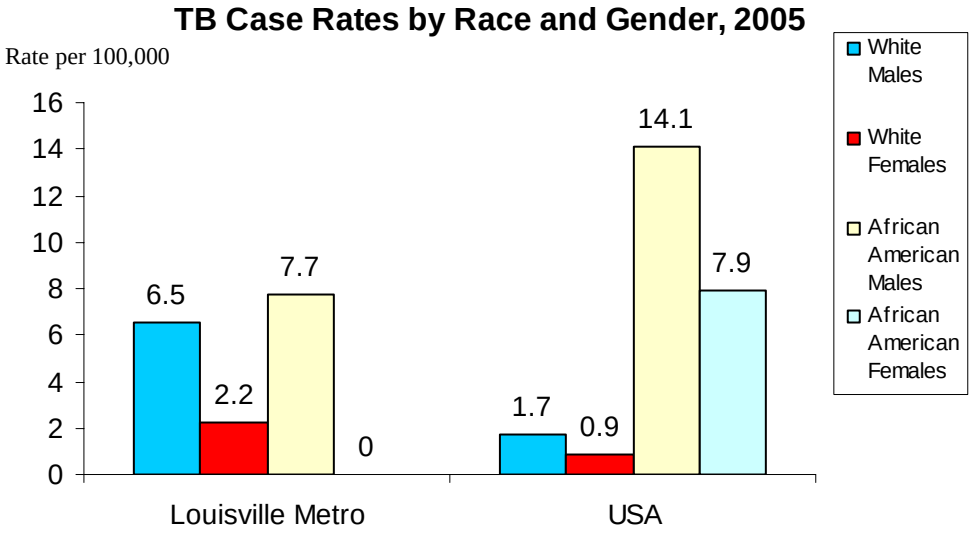
Although nationally active TB case rates have fallen since the CDC started monitoring them, TB cases continue to be reported in the United States and the national rate of new active TB infections for 2005 was 4.8 per 100,000 population.

The rate of new cases of TB in Louisville Metro has fluctuated over the past five years, but does not show a clear trend.[7]

The local case rate (4.4 per 100,000) was higher than the rate seen for the state, and nearly equal to the national rate. The rate of new TB cases in Louisville Metro for 2005 was over 4 times higher than the goal of one (1) new case per 100,000 persons set by the Healthy Kentuckians 2010 and Healthy People 2010 reports.




Case rates in 2005 for Louisville Metro were higher for Whites (males and females) compared to national rates. Although African Americans have more cases of TB than would be predicted based on their population counts, the disparity between African Americans and Whites is smaller in Louisville Metro than it is in the country as a whole.[7, 8]



## Measles

### *What is it?*

Measles is a highly contagious respiratory disease caused by a virus. Symptoms include rash, high fever, runny nose, and eyes.

### *Why is it important?*

Before 1963, there were an average of 3 to 4 million cases and 450 deaths caused by measles in the United States each year. In addition to death, other complications following measles infection include encephalitis (inflammation of the brain), which can lead to deafness; mental retardation; or miscarriage, premature birth, and birth of low weight babies in pregnant women who are infected.

### *What is Louisville Metro's status?*

Although there were 66 cases of measles in the United States, no new cases were reported in Louisville Metro or Kentucky in 2005.[9, 10] In the past five years Louisville Metro has not recorded any new cases of measles. The last local measles reports were two cases in 1999. A nearly universal childhood vaccination program using a very effective vaccine coupled with effective reporting and surveillance programs have contributed to this very low new case rate.

## Pertussis

### *What is it?*

Pertussis (Whooping Cough) is a highly contagious respiratory infection caused by the *Bordetella pertussis* bacterium. Symptoms often last for many weeks and in young children may include severe bouts of coughing with a "whooping" sound as the child tries to inhale between coughs. The child may vomit after a coughing spasm. Symptoms in adolescents and adults may not be as severe as they are in young children.

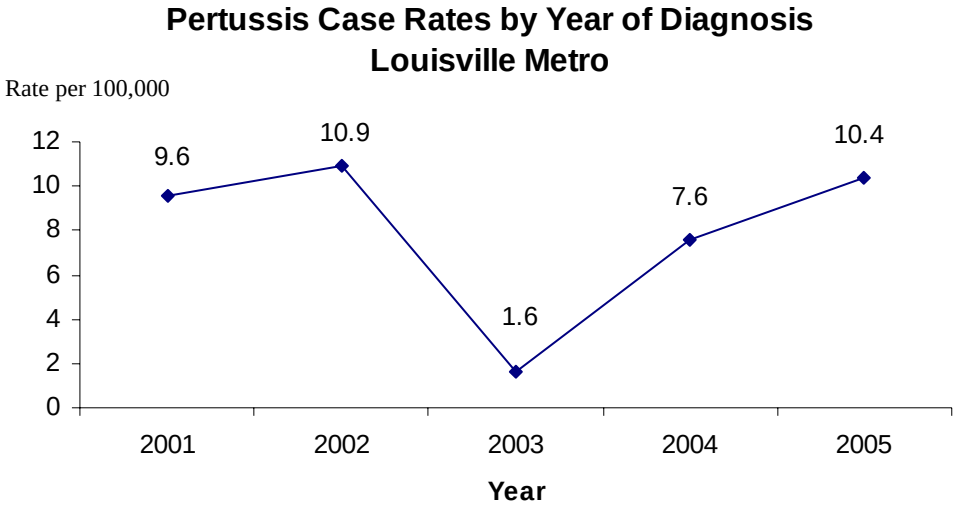
### *Why is it important?*

Complications resulting from the initial infection can occur (particularly in young children) and may be life threatening. Immunization can prevent, or at least reduce the severity of, the infection. However, children who are too young to be vaccinated or who have started the vaccination series, but have not had the time to develop immunity are at risk for the infection.

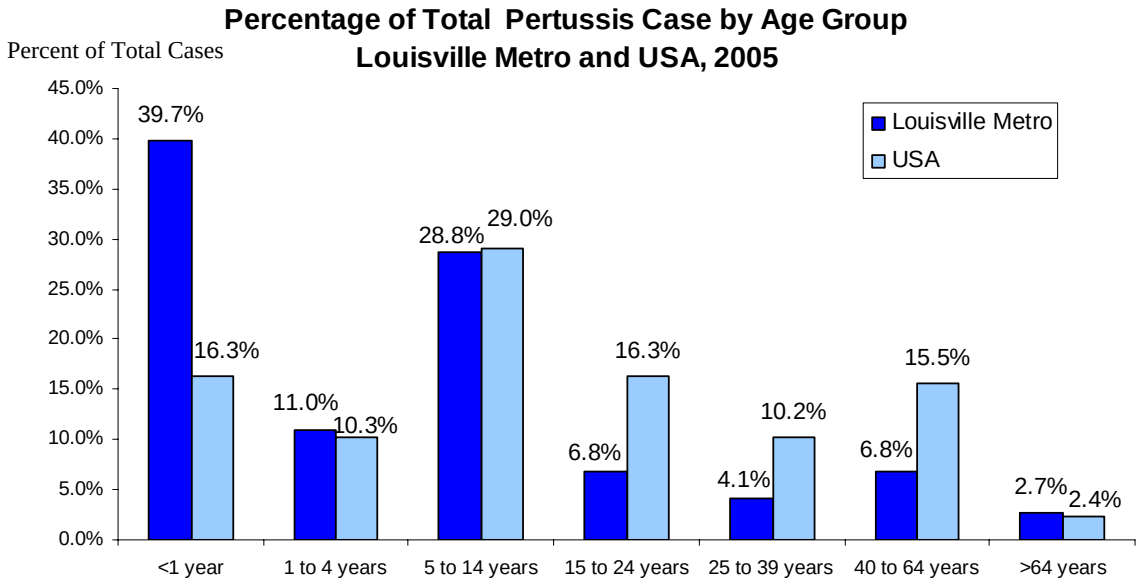
### *What is Louisville Metro's status?*

The rate of new pertussis cases per 100,000 population in Louisville Metro has fluctuated over the past five years.[9] In 2005 the rate increased from the 2004 rate of 7.6 cases per 100,000 to 10.4 per 100,000 population. This rate is the second highest seen in Louisville in the past 5 years.

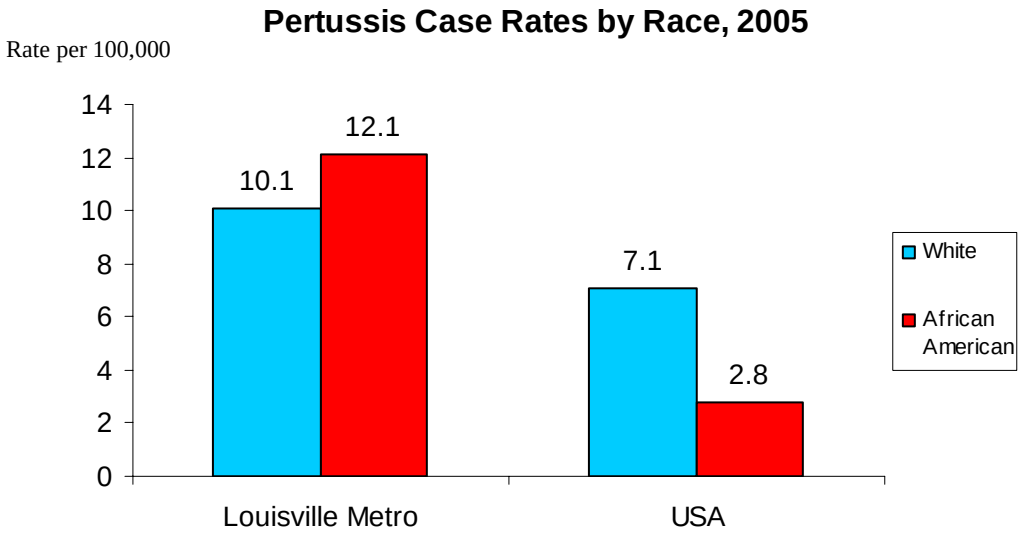
Although pertussis is a vaccine preventable disease, vaccine-induced immunity decreases 5 to 10 years after the last vaccination. That suggests individuals older than 10 years of age will have diminishing immunity. These older members of the community act as reservoirs for the bacterium responsible for pertussis, and could infect other individuals in the community who have diminishing immunity or who were never immunized. Adolescents and adults who have pertussis may fail to seek treatment or may not be diagnosed as having pertussis when they do seek treatment. This undiagnosed or untreated pool of pertussis cases contributes to a steady supply of infectious persons in the community who are available to infect other under-immunized or un-immunized individuals.




Louisville Metro's distribution of pertussis cases by age follows the national trend, except for the less than one year, 15 to 24, 25 to 39, and 40 to 64 year age groups. In Louisville the largest percentage fell in less than one year age group, primarily because this population contains incompletely immunized and un-immunized individuals. A smaller than expected percentage appeared in the age groups covering the 15 to 64 year ages compared to national percentages.



Nationally, pertussis rates are higher in Whites than in African Americans. The rate in Whites that is more than two times greater than the rate seen in African Americans. However, in Louisville Metro, pertussis rates in 2005 were higher in African Americans than in Whites. Compared to the national rates, Louisville Metro has higher rates overall and for African Americans and Whites. [9, 10]




Louisville Metro is fortunate to have a children's hospital in the community that has been a pioneer in the screening and diagnosis of pertussis cases in their patient population. The exceptional surveillance and reporting from that hospital could help to explain the unexpectedly large number of pertussis cases reported in children seen in Louisville Metro.

*What are we doing about it?*

The current Communicable Disease Reporting/Surveillance model used in Louisville Metro requires that our partners in the community initiate a report of a specific reportable disease. Once the department has the report, individuals in the communicable disease division can investigate the report and assess our community's risk as a result of each reported case. The number of staff available for surveillance activities and the use of programs and procedures to improve the timeliness and accuracy of disease reports from our partners, help shape the effectiveness of disease reporting in our community.

Louisville Metro Health Department has two nurses who are assigned to disease surveillance activities. Two additional nurses divide their time between disease surveillance and immunization activities in the community. These additional nurses supplement the surveillance activities performed by the two full time surveillance nurses and the epidemiologist. They also visit physician's offices in the community as part of an effort to encourage timely and accurate disease reporting and to supply information about the specific tests required to confirm reportable diseases to office staff.

The medical director for the communicable disease division is in his fourth year with the department. This physician has a background in pediatric infectious diseases and supplies valuable clinical experience to the division as well as acting as a point of contact between Louisville Metro Public Health and Wellness and other physicians in the community.

The **Office of Vaccines and Immunizations** conducts surveys of all day care facilities and schools in Louisville Metro annually and conducts on-site audits at the request of and in collaboration with the Kentucky State Immunization Program regarding childhood immunizations. They also conduct educational programs and provide immunizations at clinic locations. Special walk-in clinics are also held during the influenza season in the fall and early winter.

The **HIV/AIDS Prevention Program** conducts community and targeted prevention education sessions and provides confidential testing, counseling and partner notification services. As a component of the Health Department's AIDS prevention strategy, the methadone maintenance clinic was established to reach opiate addicted IV drug users. Louisville Metro Public Health and Wellness is the only health department in the state that receives funding from the state's Division of Substance Abuse for the treatment of opiate addiction.

The **Specialty Clinic,** which receives funding from the CDC under the Syphilis Elimination Grant, diagnoses and treats sexually transmitted diseases. The clinic increased the number of staff to provide more testing in the clinic as well as jails and homeless shelters in the community.

The **Regional Tuberculosis Clinic** provides diagnosis and treatment for active and latent TB infections. A team, comprised of a physician, nurses, and a social worker, provide case management for active cases. Directly Observed Therapy is provided to all patients with active TB to insure complete treatment.

*What else do we need to do?*

Disease reporting and surveillance in Louisville Metro and in other communities around the world is a passive system that relies on non-health department partners in the community to initiate the disease report. Louisville Metro Public Health and Wellness continues to explore and develop cost effective techniques that will move Louisville Metro from a passive reporting system to a more active system. The more active systems involve the health department discovering disease in the community before our partners have the opportunity to report it. The department should examine opportunities to move toward a more active disease surveillance model and develop partnerships with other health related agencies in the community to share the costs and benefits of a more active surveillance system.

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# Appendix
## ICD-10 Codes for Mortality Data

| Cause of Death | ICD-10 Code |
|---|---|
| All Cancer | C00-C97 |
| All Causes | A00-Y89 |
| Alzheimer's Disease | G30 |
| Asthma | J45-J46 |
| Certain Conditions Originating in the Perinatal Period | P00-P96 |
| Chronic Liver Disease and Cirrhosis | K70, K73-K74 |
| Chronic Lower Respiratory Diseases | J40-J47 |
| Congenital Malformations, Deformations, and Chromosomal Abnormalities | Q00-Q99 |
| Coronary Heart Disease | I11, I20-I25 |
| Diabetes | E10-E14 |
| Diseases of Heart | I01-I09, I11, I13, I20-I51 |
| Disorders Related to Short Gestation and Low Birth Weight, Not Elsewhere Classified | P07 |
| Essential (primary) Hypertension and Hypertensive Renal Disease | I10, I12 |
| Female Breast Cancer | C50 |
| Homicide | X85-Y09, Y87.1 |
| Human Immunodeficiency Virus (HIV) Disease | B20-B24 |
| Influenza and Pneumonia | J10-J18 |
| Lung Cancer | C33-C34 |
| Motor Vehicle Crash | V02-V04, V09.0, V09.2, V12-V14, V19.O-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2 |
| Kidney Disease (nephritis, nephritic syndrome & nephrosis) | N00-N07, N17-N19, N25-N27 |
| Newborn Affected by Maternal Complication of Pregnancy | P01 |
| Prostate Cancer | C61 |
| Respiratory Distress of Newborn | P22 |
| Stroke | I60-I69 |
| Sudden Infant Death Syndrome (SIDS) | R95 |
| Suicide | X60-X84, Y87.0 |
| Unintentional Injury | V01-X59, Y85-Y86 |

# ICD-10 Codes for Injury Mortality Data

| Mechanism | All Injury | Unintentional | Suicide | Homicide |
|---|---|---|---|---|
| All Injury | V01-Y36, Y85-Y87, Y89 | V01-X59, Y85-Y86 | X60-X84, Y87.0 | X85-Y09, Y87.1 |
| Cut/Pierce | W25-W29, W45, X78, X99, Y28, Y35.4 | W25-W29, W45 | X78 | X99 |
| Drowning | V90-V90.9, W65-W74, X71, X92, Y21 | V90-V90.9, W65-W74 | X71 | X92 |
| Fall | W00-W19, X80, Y01, Y30 | WOO-W19 | X80 | Y01 |
| Fire/Hot object or substance | X00-X19, X76-77, X97-X98, Y26-Y27, Y35.0 | X00-X19 | X76-77 | X97-X98 |
| Firearm | W32-W34, W72-74, X93-X95, Y22-Y27, Y36.3 | W32-W34 | X72-74 | X93-X95 |
| Machinery | W24, 230-W31 | W24, W30-W31 | | |
| All transport | V01-V99, X82, Y03, Y32, Y36.1 | V01-V99 | X82 | Y03 |
| Motor Vehicle Crash | V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2 | V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1,V82.0-V82.1, V83-V86,VV87.0-V87.8, V88.0-V88.8, V89.0, V89.2 | X82 | Y03 |
| All other transport-related | V01, V05-V06, V09.1, V09.3, V09.9, V10, V11, V15-V18, V19.3, V19.8, V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90-V99, X82, Y03, Y32, Y36.1 | V01, V05-V06, V09.1, V09.3, V09.9, V10, V11, V15-V18, V19.3, V19.8, V19.9, V80.0-V80.2, V80.6-V80.9, V81.2-V81.9, V82.2-V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90-V99 | X82 | Y03 |
| Natural/environmental | W42, S45, S53-S64 | W42, W43, S53-S64 | | |
| Overexertion | X50 | X50 | | |
| Poisoning | X40-X49, X60-X69, X85=X90, Y10-Y19, Y35.2 | X40-X49 | X50-X69 | X85-X90 |
| Struck by or against | W20-W22, W50-W52, X79, Y00, Y04, Y29, Y35.3 | W20-W22, W50-W52 | X79 | YOO, Y04 |
| Suffocation | W75-W84, X70, X91, Y20 | W75-W84 | X70 | X91 |

# ICD-9 Codes for Morbidity Data

| Cause | ICD-9 Code |
|---|---|
| Acquired Immunodeficiency Syndrome (AIDS) | 042-044 |
| All Cancer | 140-208 |
| All Causes | 001-E999 |
| Asthma | 493 |
| Breast Cancer | 174 |
| Coronary Heart Disease | 402, 410-414 |
| Chronic Obstructive Pulmonary Disease | 490-496 |
| Diabetes | 250 |
| Diseases of the Heart | 391-398, 402, 404, 410-429 |
| Homicide /Assault | E960-E969 |
| Lung Cancer (tracheal, bronchial and lung) | 162 |
| Mental Disorders | 290-319 |
| Mental Retardation | 317-319 |
| Motor Vehicle Crashes | E810-E825 |
| Neuroses, Personality Disorders and Other Nonpsychotic Mental Disorders | 300-316 |
| Prostate Cancer | 185 |
| Psychoses | 290-299 |
| Stroke | 430-438 |
| Suicide/Self-Inflicted Injury | E950-E959 |
| Unintentional Injury | E800-E949 |