



**The Health Status of Ingham County:**  
*An Abridged Community Health Profile*

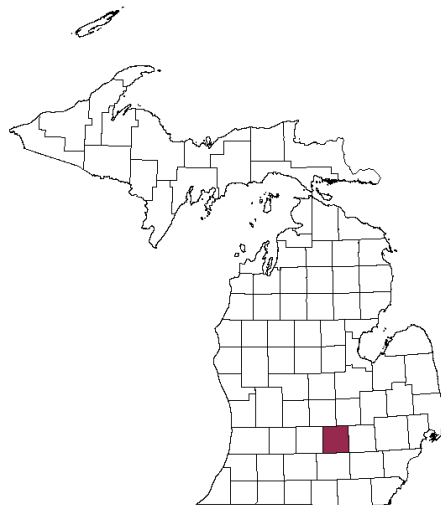
**August 15, 2008**

---



## Introduction

A comprehensive community-based assessment allows community members to gain an understanding of the overall health, concerns, and health care systems of the community. This is achieved through identifying, collecting, analyzing, and disseminating information on community assets, strengths, resources, and needs. Furthermore, a community health assessment can provide the basis for community discussion and the development of an action plan. Using secondary data sources, such as existing current surveys, this community health profile is intended to provide an overview of the health of residents in Ingham County, highlighting factors having an immediate or long-term consequence on obesity and mortality.





## Table of Contents

	<i>Page</i>
County Overview	7
Physical Activity -Adults	9
Physical Activity -Children and Teens	10
Overweight & Obesity -Adults	11
Overweight & Obesity -Children and Teens	12
Mortality	13
Hospitalizations	14
Access to Healthcare -Adults	15
Access to Healthcare -Children and Teens	16
Immunization	17
Maternal & Child Health	18
Responsible Sexual Behavior	19
Tobacco -Adults	21
Tobacco -Children and Teens	22
Alcohol Abuse -Adults	23
Alcohol Abuse -Children and Teen	24
Neighborhood Safety -Adults	25
Neighborhood Safety -Children and Teens	26
Injury and Violence	27
Disparities	29
Conclusion	31
Information Resources	32
Contributions	33



## County Overview

According to 2006 Census estimates, Ingham County, Michigan is home to 276,898 residents, 51.4% of them female and 48.6% male. About 10% of residents are age 65 or older, 22.6% are under the age of 18 years, and 6.4% are under the age of 5 years. Ingham County encompasses both urban and rural areas, and its residents are diverse in terms of race and ethnic background (81.1% White, 11.2% Black, 0.6% American Indian and Alaska Natives, 4.5% Asian persons, 0.1% Native Hawaiian and other Pacific Islanders) as well as in income and education levels. About 88% of Ingham County residents over the age of 25 are high school graduates and 33% of them have bachelor's degrees. The median household income in 2004 was \$41,540 (compared to \$44,409 for the State of Michigan) and nearly 15% of Ingham County residents lived below the federal poverty level in that year.

These citizens of Ingham County reside in, an area of 576 square miles in the south central portion of the state's lower peninsula. Several large industrial firms are located within the County, with manufacturing, government, and education representing the major employment sources. Agriculture is important, including dairy, livestock, and crop farming. Michigan State University, the oldest land-grant university in the United States and the second largest university in the state is located in Ingham County. The County faces many challenges as it transitions from a largely industrial, manufacturing-based economy to one more globally competitive. Information- and technology-related jobs will undoubtedly be the main-stay of the County's economy in the future.

The general health status of residents may be influenced by many factors including, personal behaviors, environmental factors, and social and economic conditions. Many Ingham County residents lack ready access to quality and affordable health care. According to 2006 Capital Area Behavioral Risk Factor and Social Capital Survey, approximately 11.5% of adults in Ingham County had no health care coverage and slightly over 24% reported they had no personal doctor or health care provider.

*(Continued on page 8)*

Over 16% of residents reported that there was a time in the past year when they needed to see a dentist but could not.

Ingham County Commissioners and many others in our community, including Ingham County's two hospital systems, are committed to increasing access to health coverage to the uninsured and underserved. Ingham Health Plan was created to provide basic primary and preventive care for these residents, and currently over 16,000 individuals are covered by the plan.

The collaboration of community members in Ingham County has been facilitated by a number of existing partnerships and coalitions invested in the health and well-being of the residents of this county. The Power of We Consortium, the Capital Area Health Alliance, Community Health Partners, and other organizations have provided innovation and leadership in the response to health needs. Ingham County has long recognized the impact of land-use decisions on health. Whether through zoning ordinances, the recent Farmland Preservation Initiative, or by its thoughtful commitment to creating a walkable, bikeable, accessible community, the County has been on the forefront in addressing health issues through policy and environment changes. Likewise, Ingham County has been at the leading edge of a national social justice initiative to confront health inequities based on race, gender, and social economic background. Such originality and foresight has positioned the county of Ingham to respond to several identified community health needs, including those presented in this report.

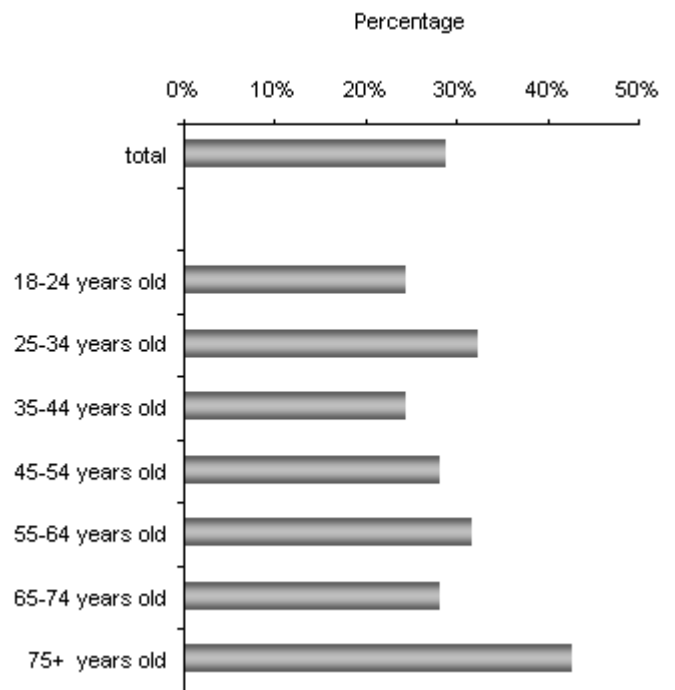


## Physical Activity

### *Adults*

Physical activity is a key health behavior in promoting a healthy lifestyle, as regular physical activity throughout life is important for maintaining a healthy body, promoting psychological well-being, and preventing premature death. Physical activity is noted to be a leading health indicator in Healthy People 2010. The Healthy People 2010 target is to reduce the proportion of adults who engage in no leisure-time physical activity by 20%. Leisure time physical activity is defined as participation in physical activity during the past month, outside of one’s regular job. A substantial percentage of Ingham County adults for each given age range report no leisure-time physical activity, and the overall general trend is that this percentage increases with age.

**Figure 1.** Percentage of adults in Ingham County, Michigan who do not participate in leisure – time physical activity by age, 2006 Capital Area BRFSS & Social Capital Survey

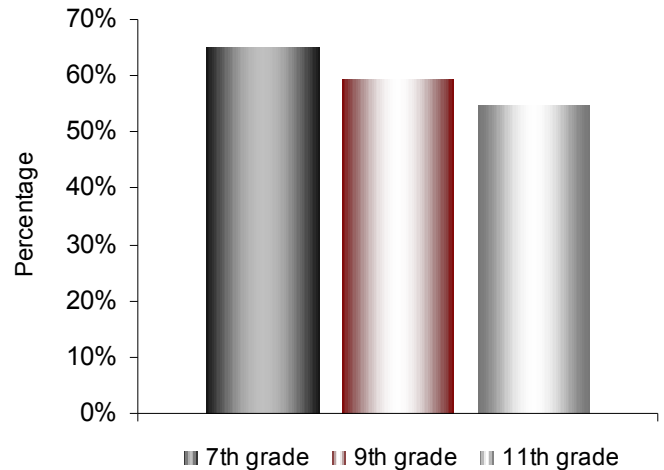


## Physical Activity

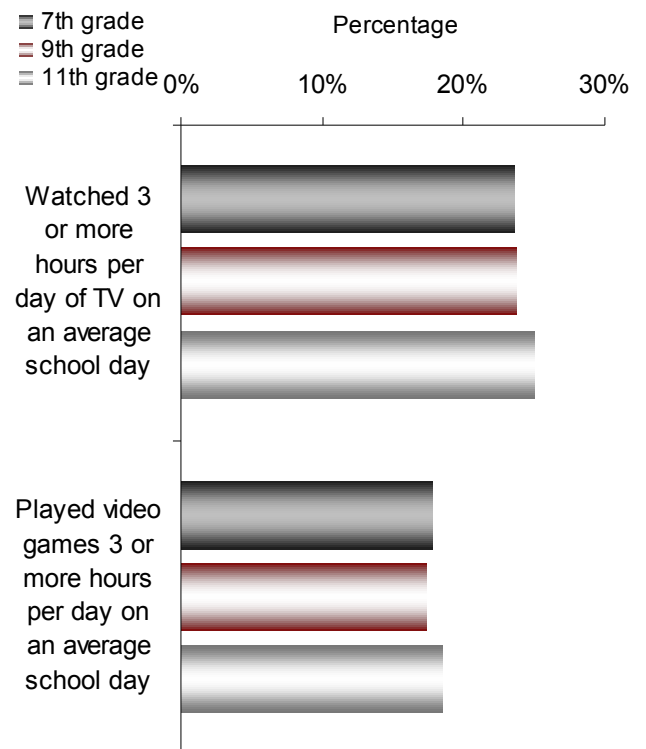
### *Children & Teens*

Like other health behaviors, life-long fitness habits start young. Furthermore, children and adolescents require weight-bearing exercise for normal bone development. Healthy People 2010 has maintained a target of increasing the proportion of adolescents who engage in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days by 35% percent. Within Ingham County, the percentage of students who were physically active for at least 60 minutes per day on 5 or more of the previous 7 days markedly decreased as students entered higher grades. Currently, children are exposed to multiple factors, such as television and video games, which tend to promote a sedentary lifestyle, rather than encourage physical activity. Amongst 7th, 9th and 11th grade students in Ingham County over 20% of students in each grade watched television for at least 3 hours per day and over 15% of students in each grade played video games for at least 3 hours per day.

**Figure 2.** Percentage of 7th, 9th, and 11th grade students in Ingham County who were physically active for a total of at least 60 minutes per day on five or more of the past seven days, 2006 MiPHY



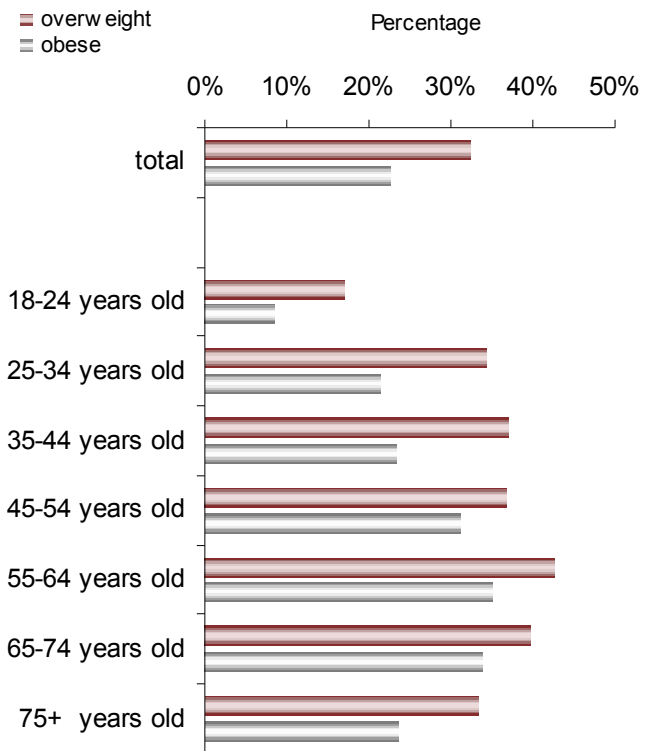
**Figure 3.** Percentage of 7th, 9th, and 11th grade students in Ingham County who watched three or more hours per day of TV or played 3 or more hours of video games on an average school day, 2006 MiPHY



## Overweight & Obesity *Adults*

Body weight is clearly linked to multiple medical conditions, with higher body weights associated with cardiovascular disease and diabetes. Overweight and obesity ranges are determined by using the body mass index (BMI); and this index is calculated based on a person’s weight and height. In most individuals, BMI correlates with the amount of body fat. A person with a BMI between 25 and 29.9 is considered overweight, while a person with a BMI of 30 or higher is considered obese. There is a national goal to reduce obesity, to only 15% of the adult population in the United States, outlined in Healthy People 2010. A substantial percentage of Ingham County adult residents can be categorized as either overweight or obese (Figure 4), and the proportion of individuals meeting these definitions tends to rise with age until the age of over 75 years. After age of 55-64 years old there is a reduction of overweight and obesity. This may be the result of premature death. Both overweight and obese persons are more likely to die earlier than persons of normal weight. Consequently, fewer of them would appear among the oldest age groups.

**Figure 4.** Percentage of adults in Ingham County, Michigan who were overweight or obese by age, 2006 Capital Area BRFS & Social Capital Survey

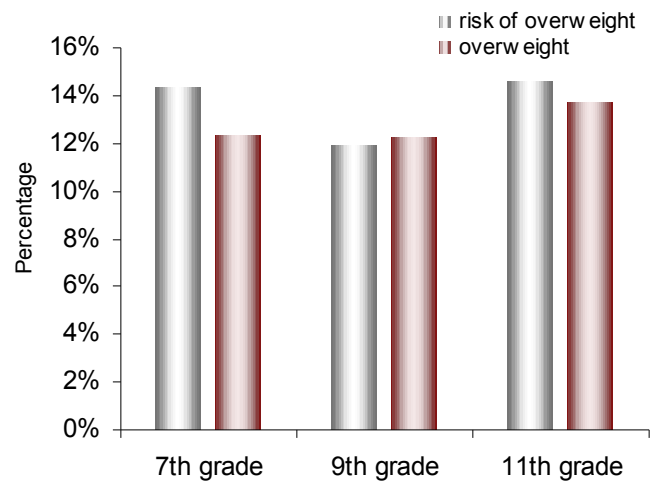


## Overweight & Obesity

### *Children & Teens*

BMI is also used for calculating overweight in children and teens, but it is utilized differently. Once a child or teen's BMI is calculated it is compared against a standardized age- and sex- specific clinical growth chart (usually the National Center for Health Statistics/National Center for Chronic Disease Prevention and Health Promotion clinical growth chart). Children and teens whose BMI is above the 95th percentile for their age and sex are considered overweight. Those with a BMI between the 85th and 95th percentile for their age and sex are considered at risk of overweight. The target for Healthy People 2010 is to reduce overweight in children 12 to 19 years old to 5%. According to Figure 5, a substantial proportion of 7th, 9th, and 11th grade students in Ingham County qualify as being overweight or at risk for being overweight.

**Figure 5.** Percentage of 7th, 9th, and 11th grade students who were overweight or at risk of overweight in Ingham County, 2006 MiPHY

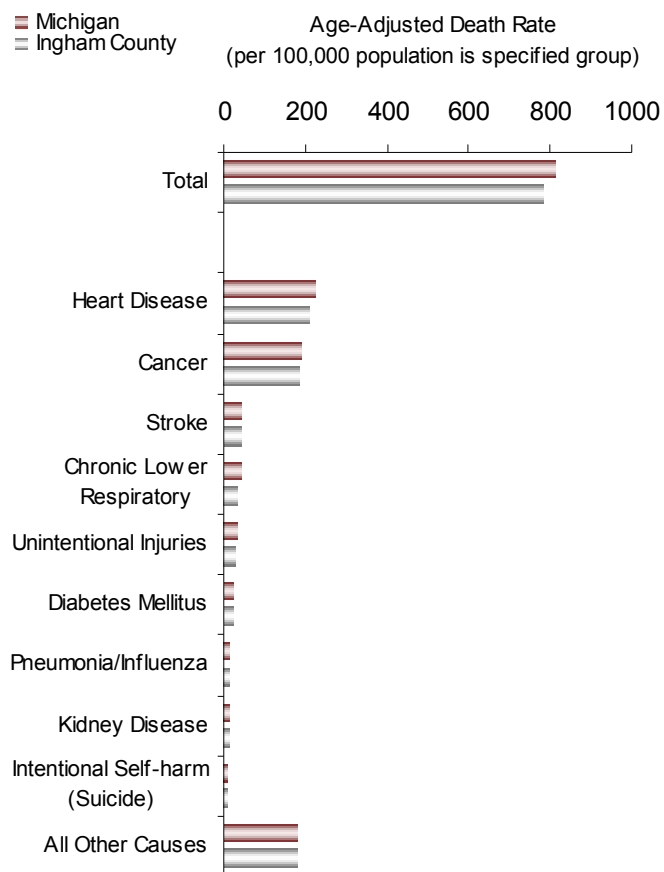


## Mortality

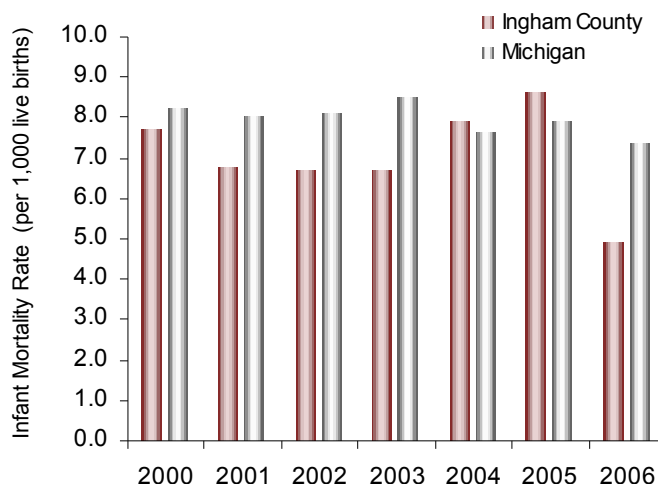
Age-adjusted death rates and infant mortality rates are important indicators of the overall health of a community. The age-adjusted death rate takes into account the age distribution of the population, comparing it with the age distribution of a standard population. When examining the age-adjusted death rate for the ten leading causes of death (Figure 6), preventable diseases including heart disease and cancer have the highest death rates amongst residents of both Ingham County and the State of Michigan.

Infant mortality rates describe the number of deaths among children less than one year of age per 1000 live births. By 2010, the national goal is to reduce infant mortality to 4.5 per 1,000 live births, according to Healthy People. Among 33 developed nations, the US ranks among the worse in infant mortality rate and the 10 year decline in infant mortality rates in the United States has recently stalled. The overall infant mortality rate within Ingham County from 2000 to 2006, shown in Figure 7, ranged from 4.9 to 8.6 deaths per 1,000 live births. With the exception of 2004 and 2005, the county's overall infant mortality rate has been lower than the state's infant mortality rate but has not yet reached the national goal as stated in Healthy People 2010.

**Figure 6.** Age-Adjusted Death Rates for Ten Leading Causes for Michigan and Ingham County, 2006 MI Vital Records-Death File



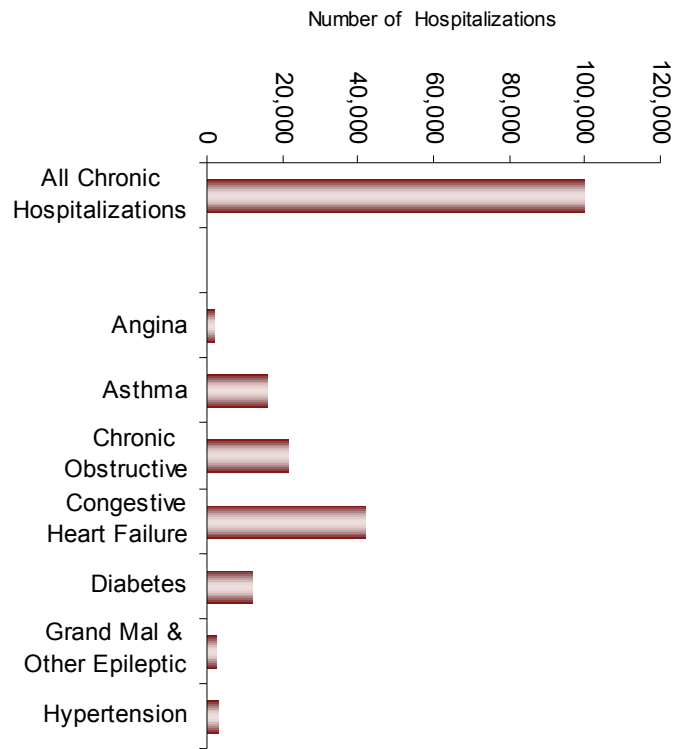
**Figure 7.** Infant mortality rate for Michigan and Ingham County, 2006 MI Vital Records-Linked Birth-Death File



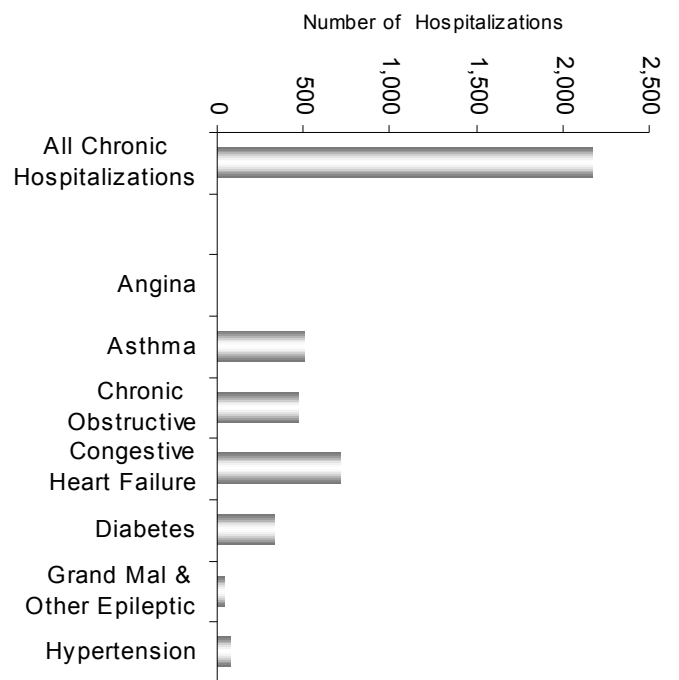
## Hospitalizations

When evaluating medical conditions requiring hospitalizations, a significant number of these hospitalizations are due to chronic medical conditions. Such hospitalizations could potentially be avoided by preventive measures, healthy lifestyle choices and regular medical follow-up. In 2006, chronic conditions such as congestive heart failure, chronic obstructive pulmonary disease (COPD), asthma and diabetes were a major proportion of all hospitalizations in Ingham County (Figure 9). While this distribution mirrors that of the State of Michigan over the same period (Figure 8), asthma plays a slightly more prominent role than COPD within Ingham County compared with the State of Michigan in general.

**Figure 8.** Ambulatory care sensitive hospitalizations for chronic conditions in Michigan, 2006 MI Hospital Inpatient Data



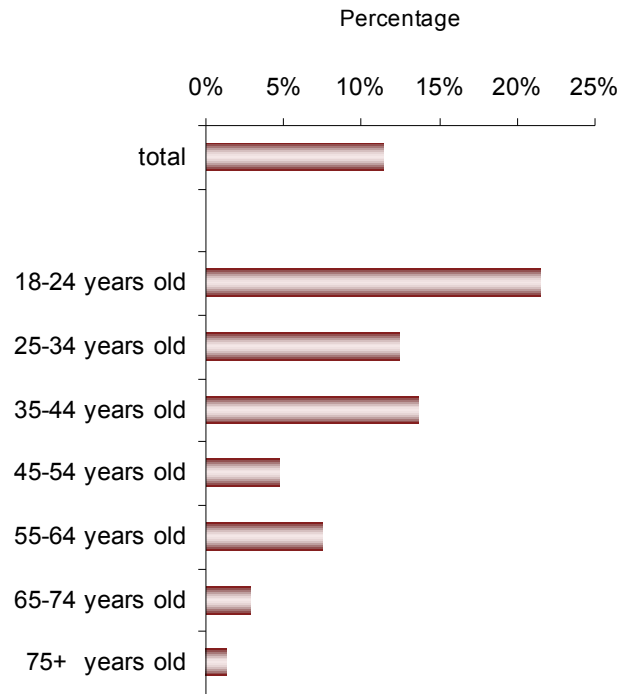
**Figure 9.** Ambulatory care sensitive hospitalizations for chronic conditions for Ingham County, 2006 MI Hospital Inpatient Data



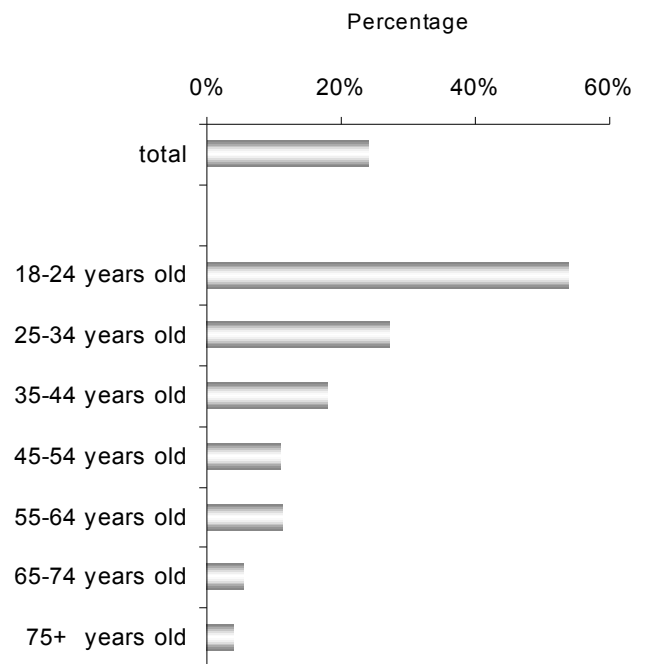
## Access to Healthcare *Adults*

National goals have been set to increase the number of persons with health insurance and an established primary care provider (Healthy People 2010 objectives 1.1 and 1.5, respectively). Access to healthcare plays an important role in maintaining health, and having health insurance or health coverage is a key indicator of access to health care. Having a personal health care provider who can provide routine medical care and help avoid preventable hospitalizations can also be used as a marker of access to health care. The percentage of adults in Ingham County having health insurance or health coverage (Figure 10) or those with no personal health-care provider (Figure 11) varies substantially with age. The number of individuals with no insurance or coverage and those with no personal health-care provider tends to markedly decrease with age, likely correlating in part to the shift to Medicare coverage for those older than 65 years of age.

**Figure 10.** Percentage of adults in Ingham County who have no health insurance or health coverage by age, 2006 Capital Area BRFS & Social Capital Survey



**Figure 11.** Percentage of adults in Ingham County who have no personal healthcare provider by age, 2006 Capital Area BRFS & Social Capital Survey

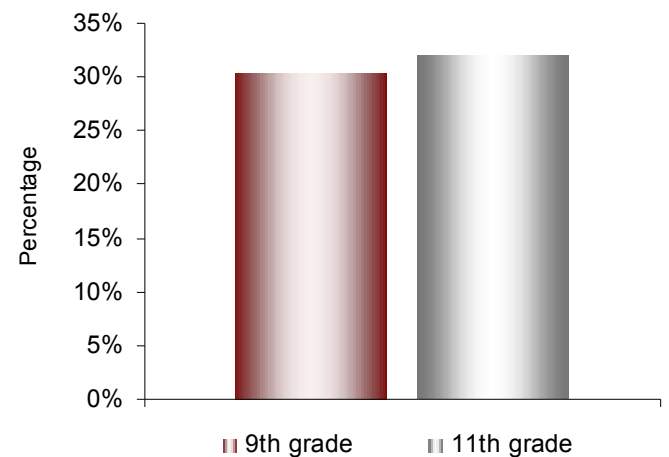


## Access to Healthcare

### *Children & Teens*

Childhood represents a critical time to instill healthy lifestyle behaviors. Routine visits to a health provider can ensure adequate preventive care and encourage appropriate health maintenance measures. All young children in Michigan are eligible for health coverage through Medicaid or MIChild, however not all families are aware of this. Within Ingham County, greater than 30% of children in the 9th and 11th grades did not see a health provider for a check-up or physical within a 12 month period, despite recommendations for an annual exam.

**Figure 12.** Percentage of 9th and 11th grade students in Ingham County who did not see a health provider for a check-up or physical in the past twelve months, 2006 MiPHY

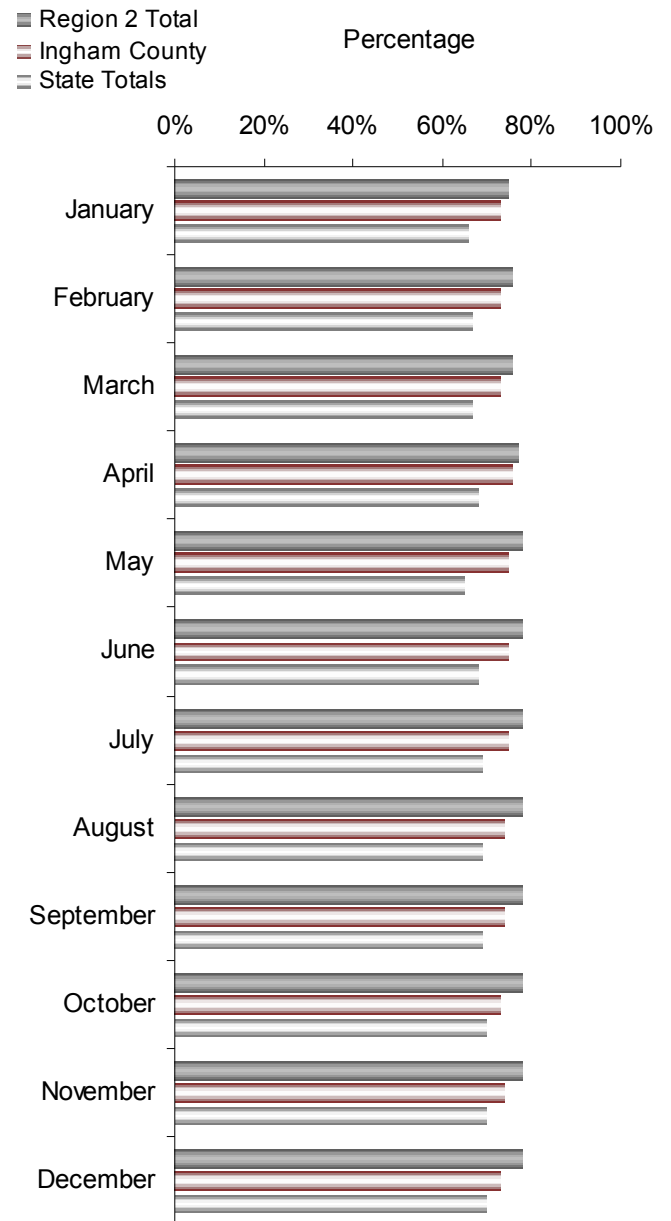




## Immunization

The reduction in death rates, particularly infant and child death rates in the early 20th century, is primarily attributed to the development and distribution of vaccines. The Michigan Care Improvement Registry (MICR) was developed to assist providers in coordinating vaccine administration and also enables public health officials to determine the immunization coverage in the state and in local areas. Ingham County is in MICR Region 3 which also includes the counties of Barry, Clinton, Eaton, Gratiot, and Montcalm. Figure 13 shows the series of vaccines that are recommended for infants before their 18th month. This group of vaccines, also known as an immunization profile, is described as the 4:3:1:3:3:1 series (4 doses of DTaP/DT/Td: 3 doses of IPV:1 dose of MMR:3 doses of HIB: 3 doses of Hep B: and 1 dose of Varicella vaccines). The target for the 4:3:1:3:3:1 vaccine series, according to Healthy People 2010 is 90% among children 19 to 35 months old. In 2006, no less than 73% of children 19 to 35 months were up-to-date for their 4:3:1:3:3:1 vaccine schedule (Figure 13).

**Figure 13.** Current Immunization Profile for 4:3:1:3:3:1 vaccine series among children 19-35 months old by month and MICR geographic area, unpublished 2006 MICR data



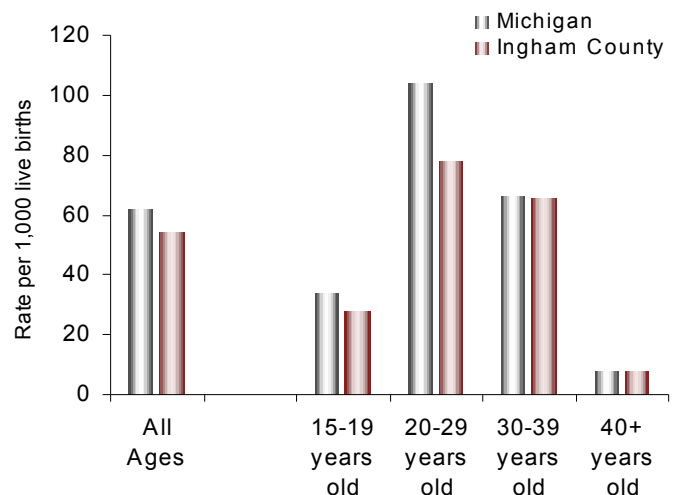
## Maternal & Child Health

In comparison to the general population, mothers and children disproportionately encounter risk factors for poor health. Therefore, maternal and child health is a very important indicator of the overall health of a community. Various maternal and infant characteristics can be used to assess maternal and child health. Preterm birth is defined as delivery before the 37th week of pregnancy. Low birthweight is defined as less than 2500 grams, while very low birthweight is defined as less than 1500 grams. The Healthy People 2010 target for low birthweight infants is 5% and for very low birthweight 0.9%. Many maternal and infant characteristics for Ingham County closely mirror that of the state. However, it is noteworthy that the proportion of Ingham County women who gained less than 16 pounds while pregnant and those who smoked while pregnant is markedly lower than the entire state. Nevertheless, the proportion of preterm births in Ingham County remains somewhat higher than the entire state.

**Table 1.** Select maternal and infant characteristics for the state of Michigan and Ingham County, 2006 MI Vital Records-Birth File

Maternal Characteristics	Ingham County	MI
Under 20 years	10.3%	9.8%
First births	40.9%	38.9%
Fourth and higher order births	9.8%	11.7%
Less than 12 years of education	17.1%	16.9%
Cesarean delivery rate	29.7%	29.4%
Weight gained while pregnant less than 16 pounds	4.5%	12.0%
Smoked while pregnant	9.4%	13.8%
Unmarried	39.9%	38.1%
Received prenatal care during first trimester	83.5%	83.0%
Infant Characteristics	Ingham County	MI
Low birthweight	8.2%	8.4%
Very low birthweight	1.3%	1.6%
Preterm	12.6%	9.6%
Singelton births	96.9%	96.3%

**Figure 14.** Live births by maternal age for the state of Michigan and Ingham County, 2006 MI Vital Records-Birth File



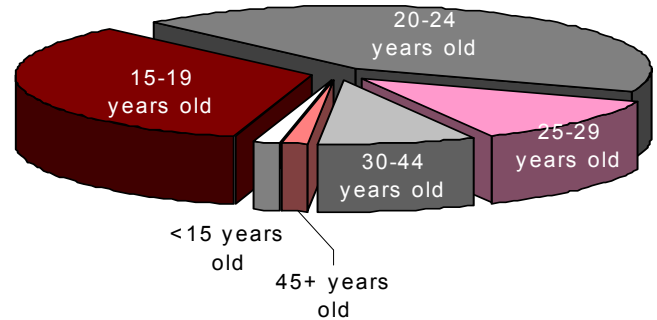
## Responsible Sexual Behavior

Unprotected sexual intercourse can have significant health implications, including transmission of sexually transmitted infections and unintended pregnancies. Rates of sexually transmitted infections like gonorrhea and Chlamydia serve as indicators of responsible sexual behavior. Moreover, untreated gonorrhea and Chlamydia can lead to severe medical complications including pelvic inflammatory disease and infertility. Within Ingham County, there were 567 cases of gonorrhea and 1800 cases of Chlamydia, in 2006. In Ingham County, the burden of both gonorrhea and Chlamydia remains the greatest in the adolescent and young adult populations (Figures 15 and 16).

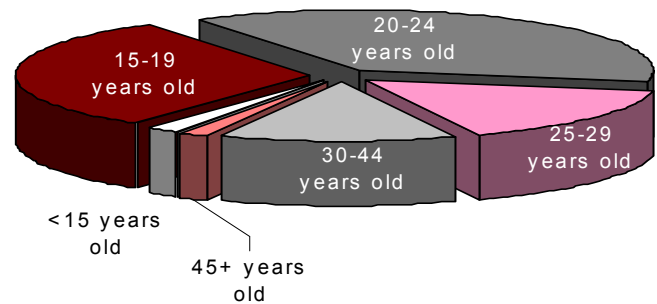
Teen pregnancy often results in increased stressors and can have a long-lasting impact on the family. Teen pregnancy also serves as an indicator of responsible sexual behavior. The rate of teen pregnancy in the state of Michigan has slowly declined from 1999 to 2006 (Figure 17). Within Ingham County this downward trend from 1999 to 2006 has been less pronounced. Moreover, there appears to have been a slight increase in

*(Continued on page 20)*

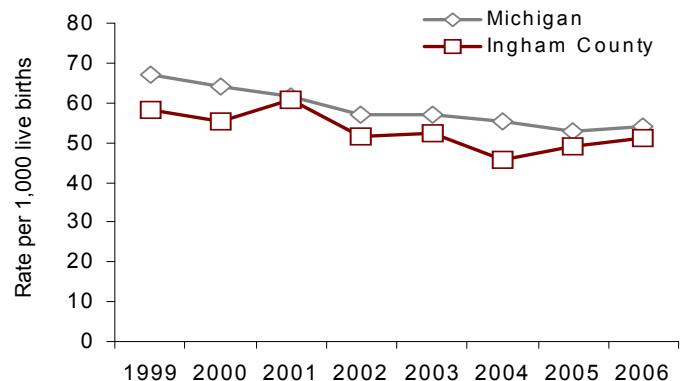
**Figure 15.** Age Distribution of Cases of Chlamydia in Ingham County, 2006 Michigan Sexually Transmitted Diseases Database, Michigan Department of Community Health



**Figure 16.** Age Distribution of Cases of Gonorrhea in Ingham County, 2006 Michigan Sexually Transmitted Diseases Database, Michigan Department of Community Health



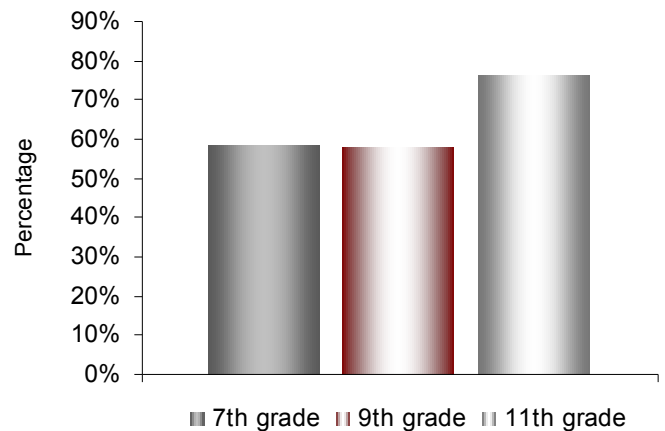
**Figure 17.** Estimated Teen Pregnancy Rates in the state of Michigan and Ingham County, 2006 MI Vital Records-Birth File



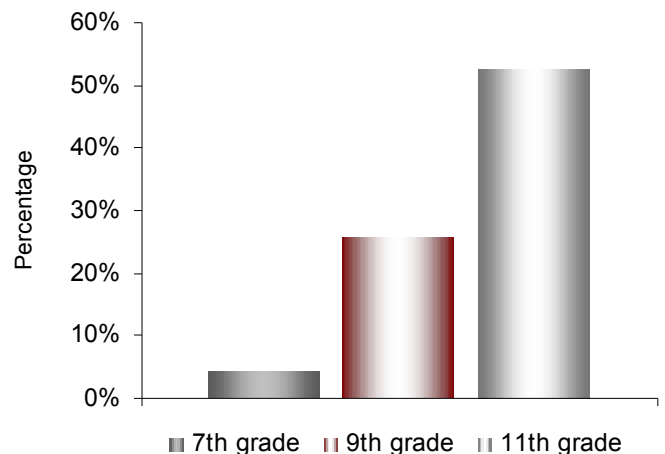
Ingham County’s teen pregnancy rate from 2004 to 2006, which warrants close monitoring. The 2006 teen pregnancy rate within Ingham County was approximately 50 pregnancies per 1000 live births. This rate remains higher than the Healthy People 2010 target of 43 pregnancies per 1,000 females aged 15 to 17 years.

Educating children and youth about responsible sexual behavior is an important strategy in preventing unintended pregnancies and sexually transmitted infections, and should take place before first sexual intercourse. Nearly 60% of 7th and 9th graders and nearly 80% of 11th graders in Ingham County report having talked to either a parent or another adult in their family about sex (Figure 18). The proportion of students who have had sexual intercourse markedly increases as students progress through these three grades, with over 50% of 11th grade students reporting that they have had sexual intercourse (Figure 19). This is in sharp contrast to the Healthy People 2010 target for increasing the percentage of 15 to 17 year old children who have never engaged in sexual intercourse to 75%.

**Figure 18.** Percentage of 7th, 9th, and 11th grade students in Ingham County who ever talked with their parents or other adult in their family about what they expect them to do, or not do, when it comes to sex, 2006 MiPHY



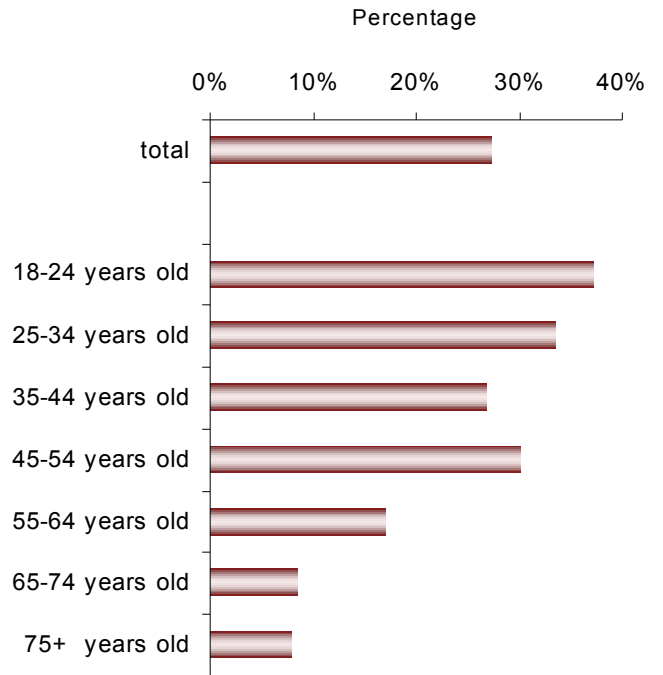
**Figure 19.** Percentage of 7th, 9th, and 11th grade students in Ingham County who ever had sexual intercourse, 2006 MiPHY



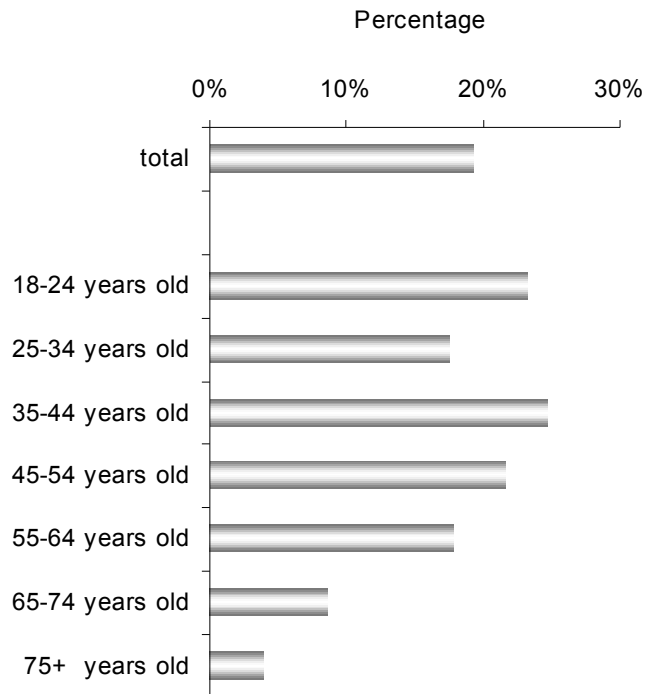
## Tobacco *Adults*

Smoking is a significant health risk behavior linked to several diseases. Moreover, secondhand tobacco smoke exposure also has serious health implications. Tobacco smoke exposure has been linked to multiple medical conditions including but not limited to cancer, cardiovascular disease, chronic obstructive pulmonary disease and premature birth. Within Ingham County, over 20% of the adult population smoke, higher than the Healthy People 2010 objective of 12% (Figure 20). Additionally, approximately 20% of the adult population is exposed to secondhand smoke within their household (Figure 21). The numbers of smokers and those exposed to secondhand smoke decrease as people age; it is likely that this trend may be due to the development of co-morbid conditions necessitating the cessation of tobacco use or leading to death.

**Figure 20.** Percentage of adults in Ingham County, who smoke by age, 2006 Capital Area BRFSS & Social Capital Survey



**Figure 21.** Percentage of adults in Ingham County, who reported that someone in their household smokes indoors by age, 2006 Capital Area BRFSS & Social Capital Survey

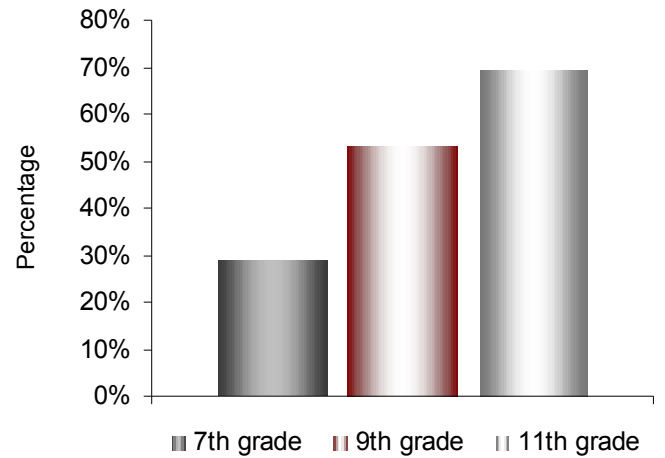


## Tobacco

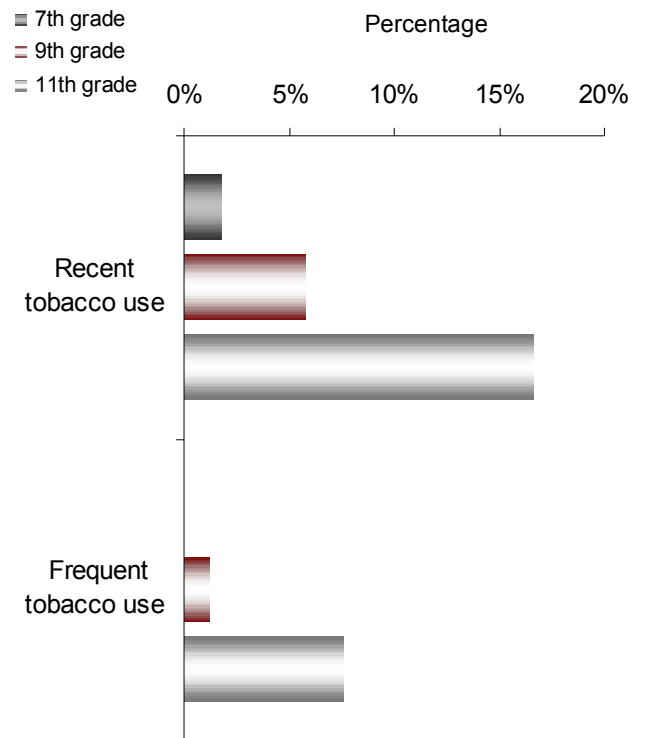
### *Children & Teens*

Smoking continues to be a major problem among minors. Within Ingham County, a large proportion of youth believe that cigarettes are readily accessible. This perception increases markedly from 7th grade to 11th grade, with approximately 70% of 11th grades reporting that it was either easy or very easy to buy cigarettes (Figure 22). In addition, the proportion of frequent tobacco users increased as children progressed from 9th grade to 11th grade (Figure 23). Moreover, a proportion of students in all three grades reported recent tobacco use, although the proportion of recent users also increased as student progressed to higher grades. The Michigan Profile for Healthy Youth (MiPHY) defines recent tobacco use as having smoked cigarettes on one or more of the past thirty days. Frequent tobacco use is defined as having smoked cigarettes on twenty or more of the past thirty days.

**Figure 22.** Percentage of 7th, 9th, and 11th grade students in Ingham County who reported that it was easy or very easy to get cigarettes, 2006 MiPHY



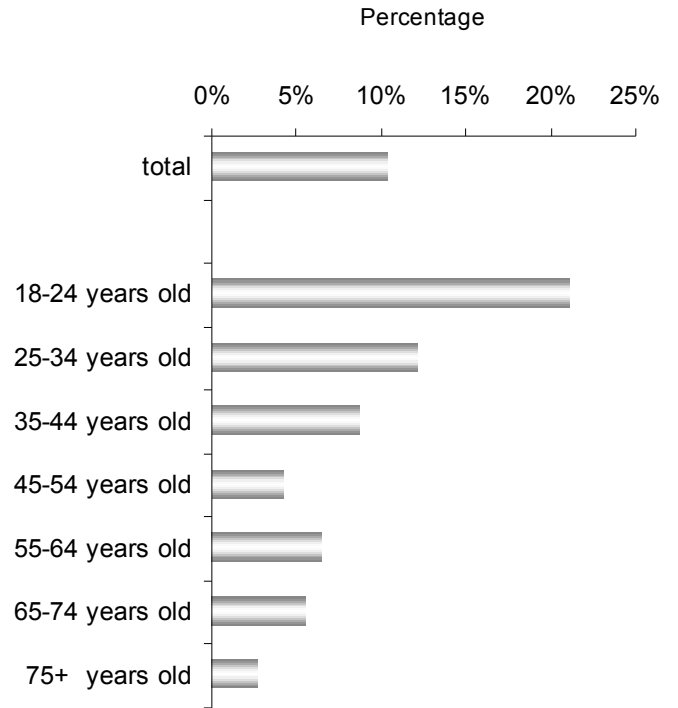
**Figure 23.** Percentage of 7th, 9th, and 11th grade students in Ingham County who recently or frequently smoked cigarettes, 2006 MiPHY



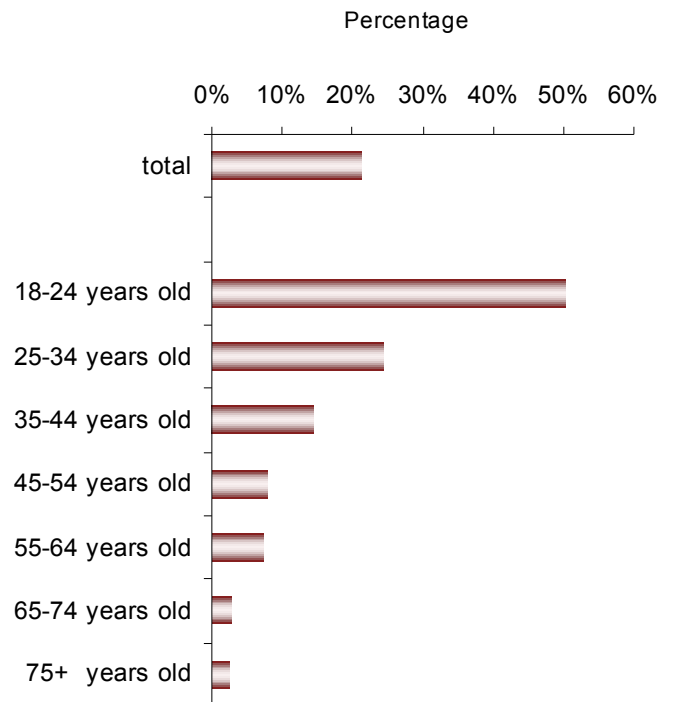
## Alcohol Abuse *Adults*

Alcohol abuse has been linked with acute health consequences such as motor vehicle crashes and domestic violence, as well as chronic medical conditions like cancer and liver disease. The definition of alcohol abuse is sex-specific. For males, binge drinking is defined as having five or more alcoholic drinks on a single occasion on one or more of the past thirty days. Females who have at least four alcoholic beverages on a single occasion on one or more of the past thirty days are considered binge drinkers. Heavy drinking in males is defined as having more than two alcoholic drinks per day. Heavy female drinkers are females who have more than one alcoholic beverage per day. Within Ingham County, heavy drinkers and binge drinking is most pronounced among individuals between 18-24 years of age. The overall trend in alcohol use shows a gradual decrease in the percentage of heavy or binge with increasing age (Figure 24 and 25)

**Figure 24.** Percentage of adults in Ingham County, who drink heavily by age, 2006 Capital Area BRFS & Social Capital Survey



**Figure 25.** Percentage of adults in Ingham County, who binge drink by age, 2006 Capital Area BRFS & Social Capital Survey



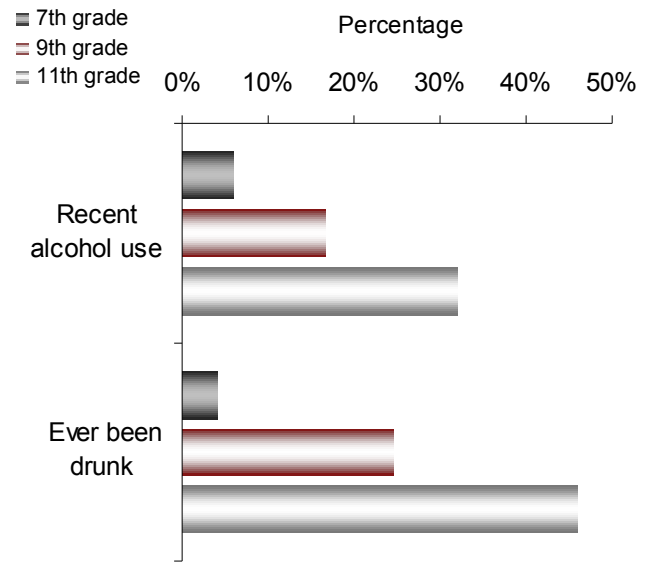
## Alcohol Abuse

### *Children & Teens*

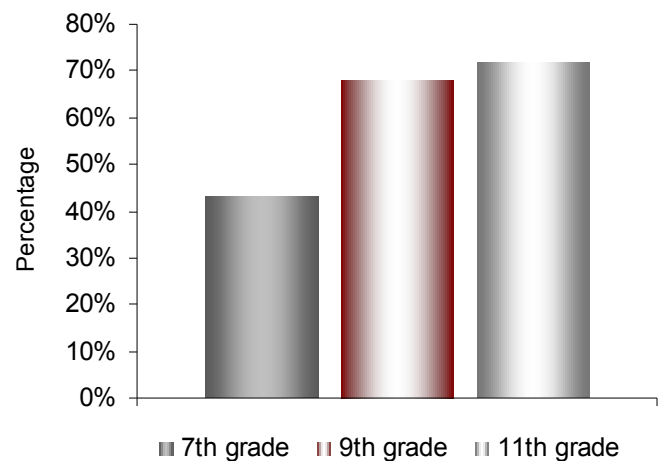
Alcohol abuse, binge drinking, and impaired judgment associated with alcohol remains prevalent among youth. According to the Michigan Profile for Healthy Youth (MiPHY), recent alcohol use is defined as having at least one alcoholic drink in the past thirty days. As children progress from 7th grade through 11th grade, an increasing number of students report recent alcohol use (Figure 26); with over 30% of 11th graders reporting recent alcohol use. Similarly, as students progress to higher grades there is an increase in the number of students who report ever being drunk, with nearly 50% of 11th grade students reporting that they have been drunk.

Risks from alcohol use extend not only from the behavior of teens themselves but also indirectly from those with whom they associate. A substantial proportion of students reported riding in a car driven by someone who had been drinking. Specifically, at least one in ten students in 7th, 9th, and 11th grades report that they have ridden with a driver who had consumed alcohol before driving (Figure 27).

**Figure 26.** Percentage of 7th, 9th, and 11th grade students in Ingham County who recently used alcohol or have ever been drunk, 2006 MiPHY



**Figure 27.** Percentage of 7th, 9th, and 11th grade students in Ingham County who ever rode in a car driven by someone who had been drinking alcohol, 2006 MiPHY



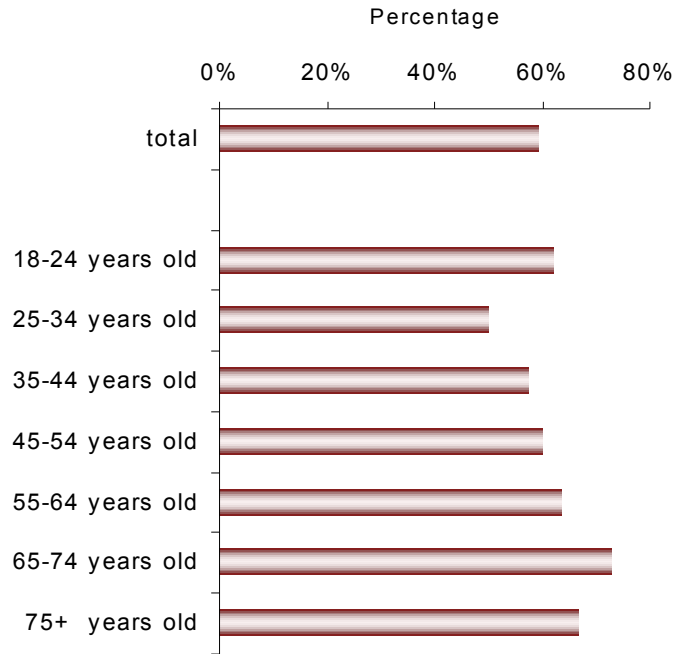


## Neighborhood Safety

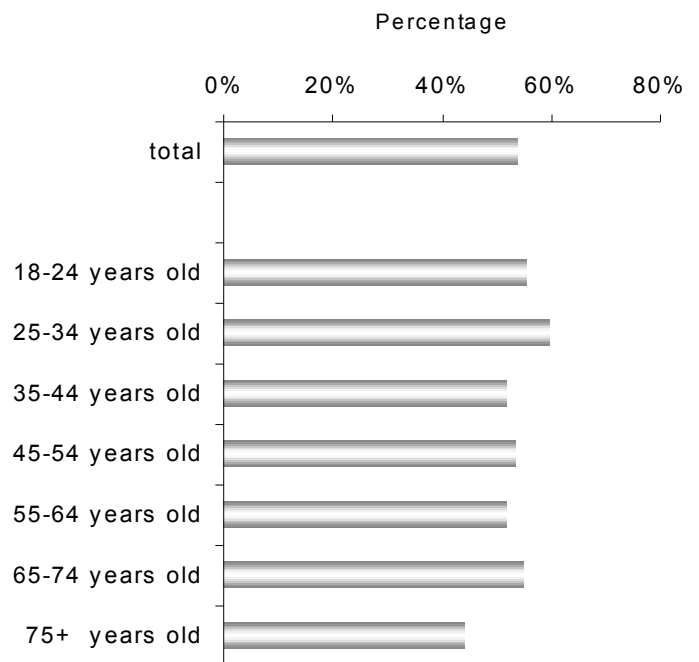
### *Adults*

Perceptions of neighborhood safety have a clear association with outdoor physical activity. Therefore, perceptions of a safe neighborhood, where people feel comfortable walking, running, biking or exercising has clear long-term health implications. The percentage of adults in Ingham County who reported that they or members of their household would feel very safe walking alone in their neighborhood remained relatively stable across different age ranges. Additionally, between 40-60% of the population across all age ranges reported that there were “a lot” of safe walkways, bike paths or walking trails within their community. The Healthy People 2010 targets include increasing the percentage of adults who go on walks of 1 mile distance or less to 25% and increasing those who go on bicycle trips of 5 miles or less to 2%.

**Figure 28.** Percentage of adults in Ingham County, who reported they or any member of their household would feel very safe walking alone in their neighborhood, 2006 Capital Area BRFS & Social Capital Survey



**Figure 29.** Percentage of adults in Ingham County who reported that there are 'a lot' of safe walkways, bike paths, or walking trails in their community, 2006 Capital Area BRFS & Social Capital Survey

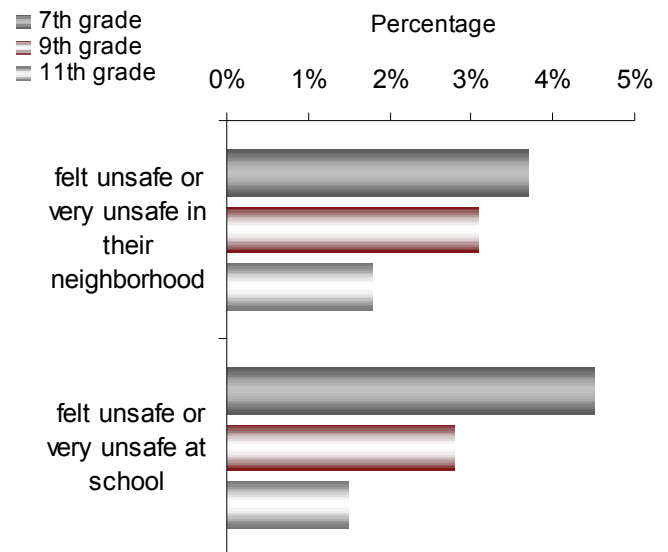


## Neighborhood Safety

### *Children & Teens*

Children’s perceptions of both the neighborhood and school environment have multiple implications. The ability to feel safe outdoors allows a child to more comfortably engage in outdoor physical activities, which can play a role in preventing childhood obesity. Feelings of safety within the school environment may also have a direct effect on a student’s learning ability. In Ingham County, more children in the lower grades report feeling unsafe or very unsafe compared with children in higher grades (MiPHY).

**Figure 30.** Percentage of 7th, 9th, and 11th grade students in Ingham County who reported feeling unsafe or very unsafe in their neighborhood or school, 2006 MiPHY

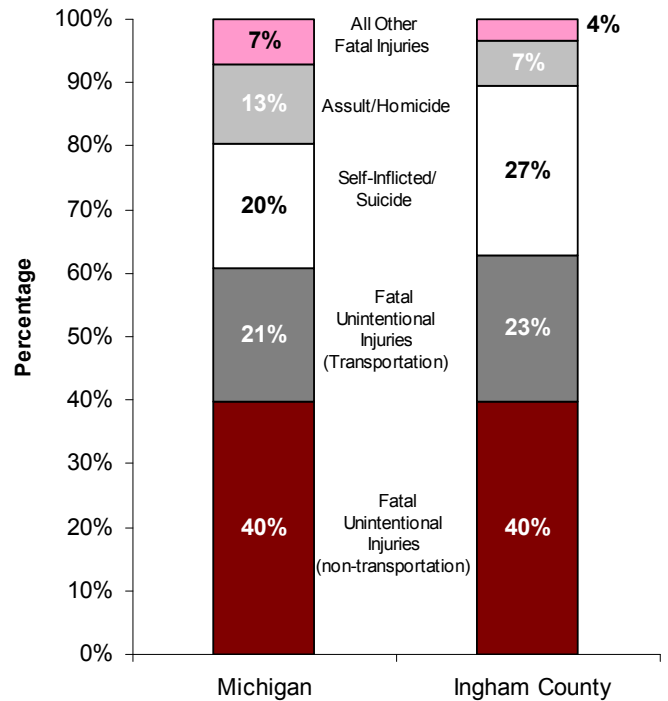


## Injury and Violence

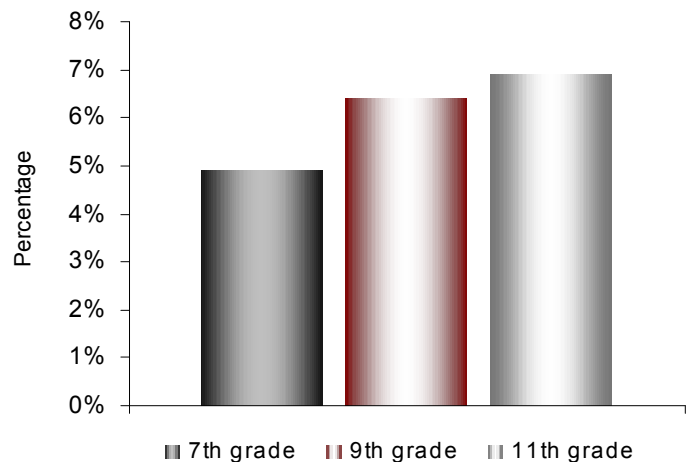
Injury and violence are major causes of premature death, disability, and health problems. In 2006, there were 113 fatal injuries in Ingham County. Fatal injuries are categorized into the following major groups: unintentional injuries (further subdivided depending on whether a transportation vehicle was involved), assaults/homicides, self-inflicted/suicide, and other fatal injuries (including complications in medical/surgical care, legal intervention/war, and undetermined causes). The majority of those fatal injuries, 63%, were unintentional. Figure 31 compares the distribution of fatal injuries in Ingham County and the state. The proportion of both types of unintentional injuries are similar between the county and the state. Ingham County has a slightly higher proportion of self-inflicted injuries than the state, but lower proportions of assault/homicide fatal injuries and other fatal injuries.

Injury and death as the result of motor vehicle accidents is a continuing concern, in spite of the variety of technological features to reduce both fatal and non-fatal transportation injuries in passengers and, in some cases, pedestrians. One low-tech feature that is still not used to its fullest potential is the safety belt. The target for Health People 2010 objective 15-19 is to increase the use of safety belts to 92% percent of all persons. Figure 32 shows the proportion of 7th, 9th, and 11th grade students in Ingham County who never or rarely wore seatbelts. Although the propor-

**Figure 31.** Fatal Injuries for Michigan and Ingham County, 2006 MI Vital Records-Resident Death File



**Figure 32.** Percentage of 7th, 9th, and 11th grade students in Ingham County who never or rarely wore a seatbelt when riding a car being driven by someone else, 2006 MiPHY



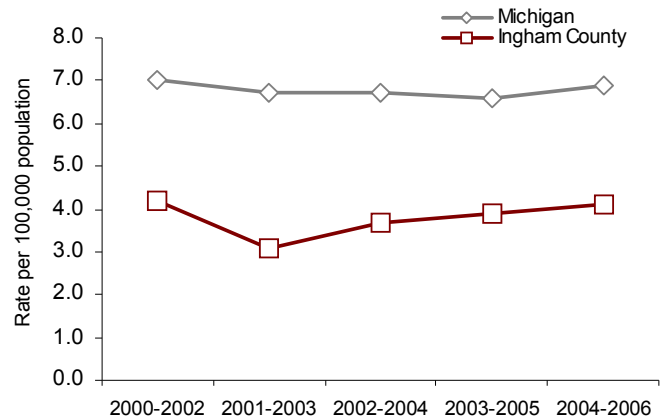
(Continued on page 28)

tions are low, it is disturbing to note that as grade level increases the percentage of student who do not utilize seatbelts also increases.

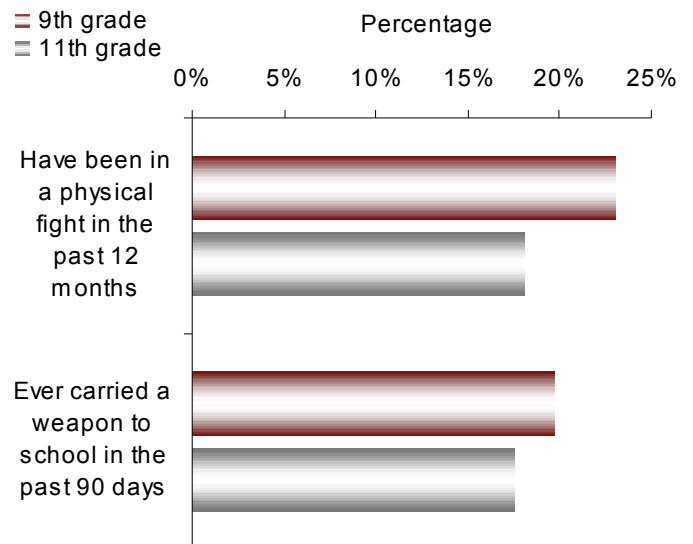
Violence remains a continuing threat to the well being of adults and youth in Ingham County. No other crime is measured as accurately and precisely as homicide. Consequently, Healthy People 2010 uses homicide as a proxy for violent crimes. The Healthy People objective addressing violence, is to reduce the rate of homicide to 3.0 homicides per 100,000 population by 2010. Figure 33 shows the three-year moving average assault/ homicide death rate for the state and the county. Between 2000-2002 and 2004-2006 the assault/ homicide death rate in Ingham County is slightly above that of the Healthy People 2010 goal.

Responses to conflict are learned behaviors. Children and teens who learn to solve conflicts using violent methods, unfortunately, become adults who utilize violence to resolve conflicts. Healthy People 2010 objectives set targets for reducing physical fighting among adolescents and weapon carrying by adolescents on school property to 32% and 4.9%, respectively. Figure 34 shows the prevalence of those two behaviors among high school students in Ingham County. Although high school students meet and exceed the objective regarding physical fights, they do not meet the objective regarding weapon carrying.

**Figure 33.** Three-Year Moving Average Assault/ Homicide Death Rates in Michigan and Ingham County, 2000-2006 MI Vital Records-Resident Death File



**Figure 34.** Percentage of 7th, 9th, and 11th grade students in Ingham County who have been in a physical fight or carried a weapon to school, 2006 MiPHY



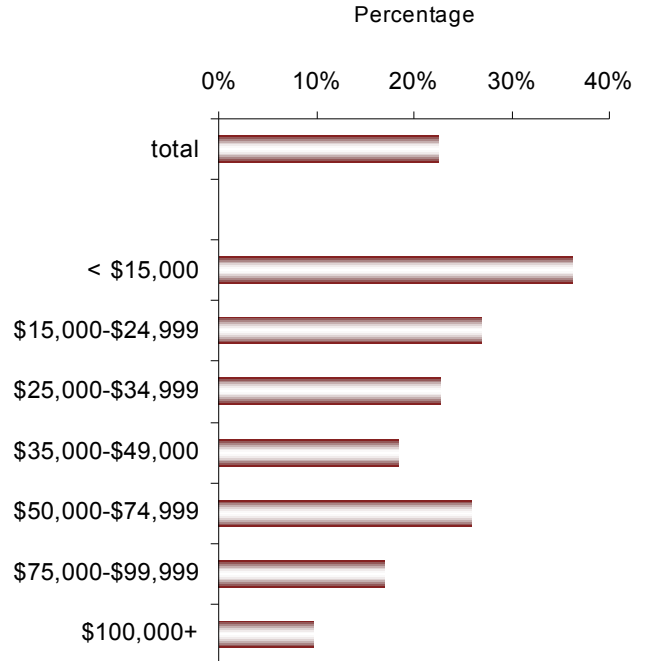
## Disparities

The growing awareness of differences in health outcomes and opportunities among differing groups of people has led to an increasing debate in this nation. What may appear to be variations in health should actually be viewed as the consequences of differences in things such as access to and utilization of quality care, disproportionate exposure to environmental and social stressors, and historical inequities across gender, race and class. Such inequities in health behaviors and health outcomes are observed across numerous characteristics in Ingham county residents. For example, when stratified by income, the observed prevalence of obesity differs among Ingham County residents (Figure 35). Despite a spike in the prevalence of obesity among persons with an income between \$50,000 and \$75,000, the general trend is for the percentage of obese persons to decrease as income increases.

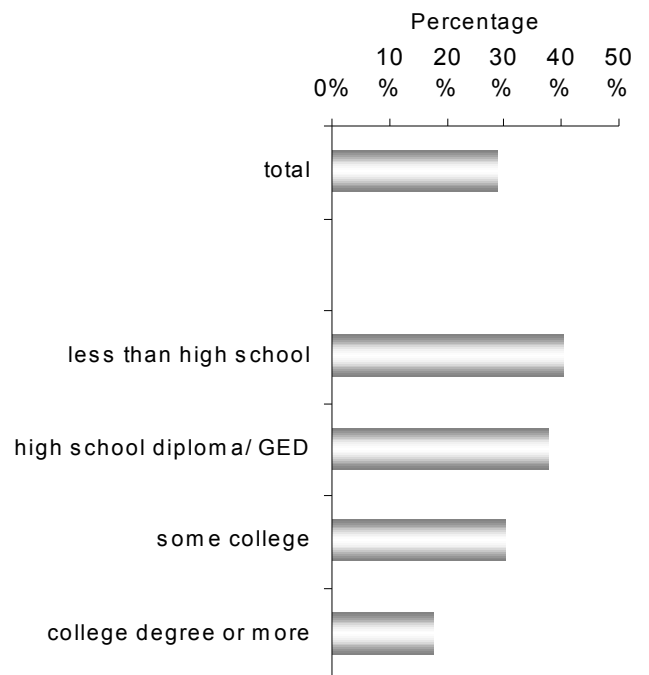
In Figure 36, we look at the percentage of persons who do not participate in leisure time physical activity by educational attainment. For each successive educational level there is a decrease of persons who reported not participating in any leisure time physical activity, in other words, those with higher education tend to have more involvement in leisure time physical activity.

In Ingham County health differences continue to be observed between White and  
*(Continued on page 30)*

**Figure 35.** Percentage of adults in Ingham County, who were obese by household income, 2006  
 Capital Area BRFS & Social Capital Survey



**Figure 36.** Percentage of adults in Ingham County who do not participate in leisure-time physical activity by educational attainment, 2006  
 Capital Area BRFS & Social Capital Survey

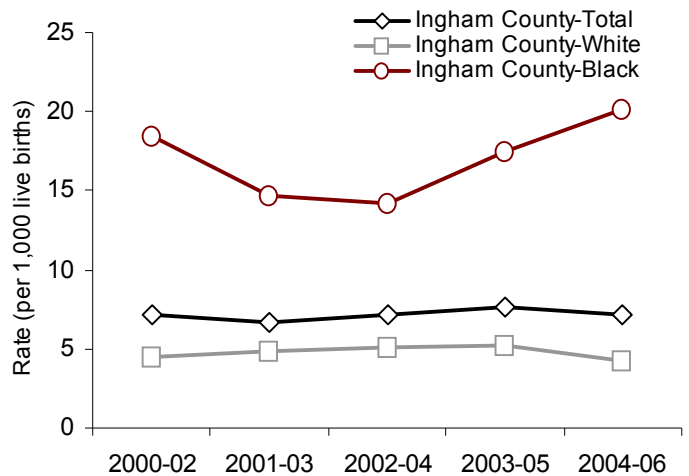


Black residents. The Black/White infant mortality ratio is one of the most striking disparities. This ratio describes the difference in the number of Black infants who die before their first birthday and the number of White infants who die before their first birthday. Figure 37 shows the average rate of infant mortality for White infants in Ingham County ranged from 4.5 per 1,000 live born White infants in 2000-2002 to 4.3 per 1,000 live born White infants in 2004-2006. Meanwhile the average rate of infant mortality among Black infants in Ingham County, ranged from 18.5 per 1,000 live born Black infants in 2000-2002 to 20.1 per 1,000 live born Black infants in 2004-2006.

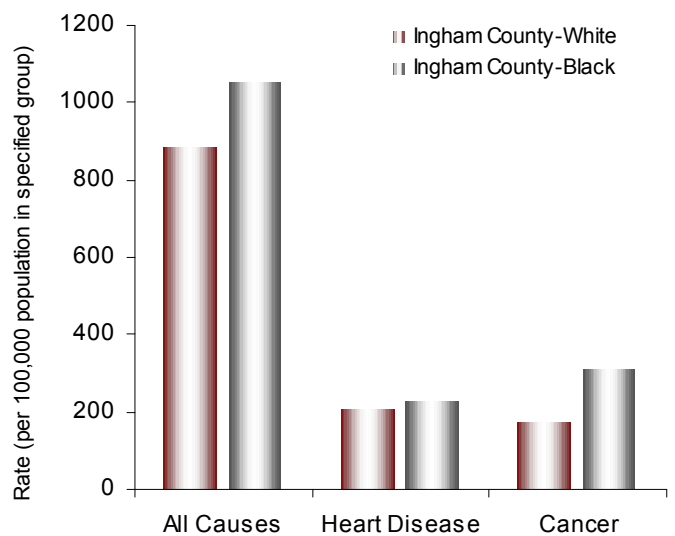
Such disparities in mortality observed on the basis of race remain among adults in Ingham County. Figure 38 shows the age-adjusted death rate for all causes of mortality, heart disease, and cancer stratified by race. Black residents have a higher rate of death for all three categories compared to their White peers.

Our awareness of the persistence of differing health outcomes among sectors of our community requires us to move toward redressing such trends. Health equity is defined as the fair and just distribution of the social resources and social opportunities needed to achieve well-being. Achieving social justice and health equity across age, gender, race and class in Ingham County are critical aspirations of this community.

**Figure 37.** Three-Year Moving Average Infant Mortality Rates by Race for Ingham County, 2000-2006 MI Vital Records-Linked Birth-Death File



**Figure 38.** Age-Adjusted Death Rates for Ten Leading Causes by Race for Ingham County, 2006 MI Vital Records-Death File



## Conclusion

What are the health concerns on the residents of Ingham County? This health profile attempted to offer an answer to that question by briefly describing the health of our community. While data provides a critical component in answering that initial question, it can only be fully answered by including responses of community members about their health concerns, priorities, and awareness of available resources. Public and political will are essential to develop and implement a health agenda with attainable and measurable outcomes, and positive results. A process such as this requires at minimum several months. This community health profile is a critical initial step that can move us toward implementing a comprehensive community health assessment process in Ingham County.

## Information Resources

1. Behavior Risk Factor Surveys, Capital Area, 1993, 1997, 2000, 2003  
CACVoices.org, click "Data & GIS"
2. Centers for Disease Control and Prevention  
[www.cdc.gov](http://www.cdc.gov)
3. Healthy People 2010, U.S. Department of Health and Human Services  
[www.HealthyPeople.gov](http://www.HealthyPeople.gov)
4. Michigan Inpatient Database, MDCH  
<http://www.mdch.state.mi.us/PHA/OSR/index.asp>
5. Michigan Profile for Healthy Youth (MiPHY)  
[http://www.michigan.gov/mde/0,1607,7-140-28753\\_38684\\_29233\\_44681---,00.html](http://www.michigan.gov/mde/0,1607,7-140-28753_38684_29233_44681---,00.html)
6. Michigan Vital Records, MDCH  
<http://www.michigan.gov/vitalrecords>
7. National Center for Health Statistics  
[www.CDC.gov/nchs](http://www.CDC.gov/nchs)
8. U.S. Census  
[www.census.gov](http://www.census.gov)
9. Vital and Health Statistics, Michigan Department of Community Health  
<http://www.mdch.state.mi.us/PHA/OSR/index.asp>



## Contributions

### Contributors

Cassandre Larrieux, MPH

*Health Analyst, Community Health Assessment*

Melany Mack, MSW

*Director, Planning & Special Services*

Parvathy Pillai, MD

*General Preventive Medicine and Public Health Resident, University of Michigan*

### Project Support

Lorraine Eastman

*Administrative Assistant*

### Editors

Melany Mack, MSW

*Director, Planning & Special Services*

Renée Branch Canady, PhD, MPA

*Deputy Health Officer, Public Health Services*

Funding for the report was provided by Sparrow Health System and the Ingham County Board of Commissioners who partner in the protection and promotion of the health of the people of Ingham County.

Dennis Swan, *President and CEO, Sparrow Health Systems*

Dean Sienko, MD, MS, *Health Officer/Medical Director, Ingham County Health Department*

Marc Thomas, *Chair, Ingham County Board of Commissioners*



