




DISPARITIES IN CANCER: ARKANSAS 2014

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INTRODUCTION

Cancer is the second leading cause of death for Arkansans and for persons of all racial groups. Only heart disease causes more deaths in the state.

Cancer is a group of distinct diseases characterized by abnormal growth and spread of cells.¹ Cancers are typically identified by location in the

body – for example, lung cancer, prostate cancer, breast cancer. Because each type of cancer is a separate disease, each cancer has a different set of factors that may contribute to the development and spread of the disease. Overall, however, cancers are known to be associated with:¹

- Tobacco use, including use of cigarettes, pipes, cigars, and chew tobacco,
- Infectious organisms, such as the hepatitis B and C viruses, human papilloma virus (HPV), Human immunodeficiency virus (HIV), and Helicobacter pylori;
- Chemicals;
- Radiation;
- Cell and gene mutations;
- Hormones; and
- Immune conditions.

In general, the burden of cancer is not distributed equally within our population. Older persons are more likely to develop cancer, likely because it may take 10 to 20 or more years for the exposures to result in disease. In addition, African Americans are more likely to die of cancer and have the shortest survival times of any racial group in the United States.² This report focuses specifically on racial and ethnic disparities in the five cancers that pose the greatest burden in terms of death and/or disability in Arkansas: lung, colorectal, breast, prostate, and pancreatic cancers.

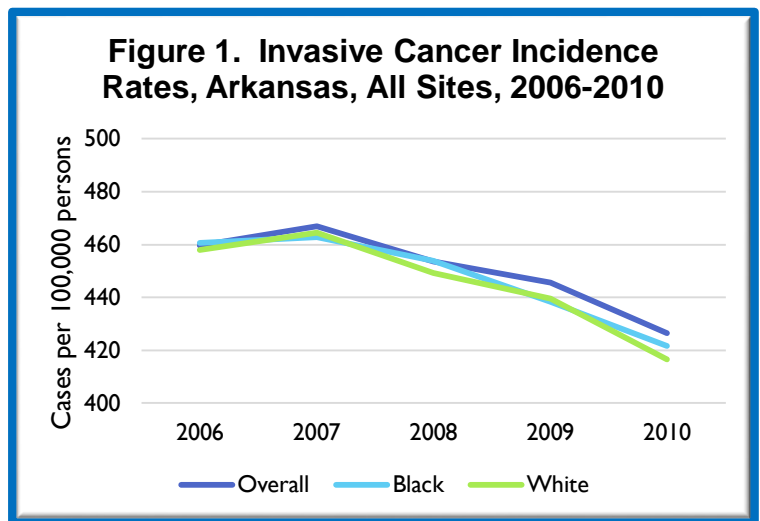
As data are presented in the pages that follow, all rates of incidence (new cases of cancer identified during the specified period) and mortality (death from that particular cancer) are adjusted to take into consideration the differences in population size and age distribution that may occur between counties or racial groups. Incidence data were obtained from the Arkansas Cancer Registry maintained by the Arkansas Department of Health; mortality data and data regarding risk factors (tobacco use, diet, physical activity) were obtained from the Centers for Disease Control and Prevention. The most recent county-level mortality and incidence data available were from the 5-year period 2006-2010; other data (i.e., leading causes of death, leading causes of cancer deaths) were drawn to represent that same time period.

Table 1: Leading Causes of Death, Arkansas 2010, Overall and by Race

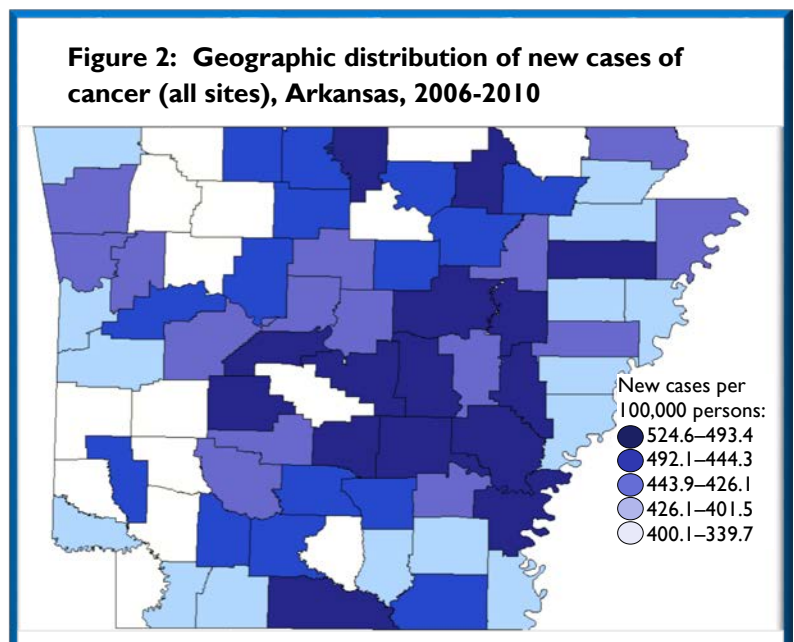
	Overall	Black	White
1	Heart disease	Heart disease	Heart disease
2	Cancer	Cancer	Cancer
3	Chronic lower respiratory disease	Cerebrovascular disease (stroke)	Chronic lower respiratory disease
4	Accidents	Accidents	Cerebrovascular disease (stroke)
5	Alzheimer's disease	Kidney disease	Accidents

INCIDENCE

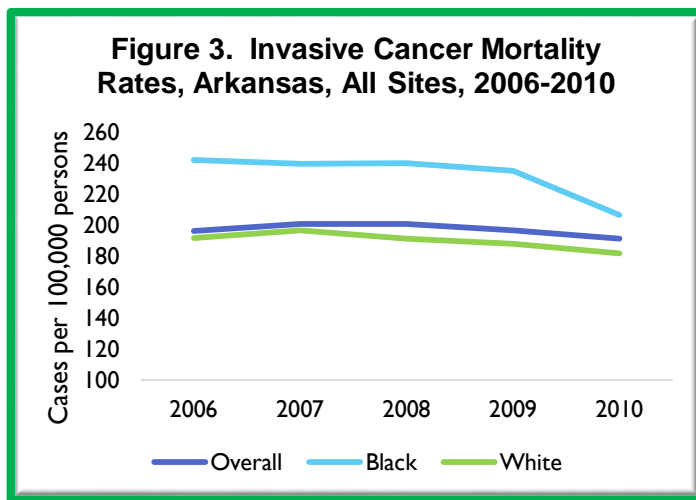
In the 5-year period between 2006 and 2010, 450 cases of cancer were identified - for every 100,000 persons in the Arkansas population. The incidence (number of new cases identified per 100,000 persons) of cancer has declined slightly over the period for the Arkansas population overall and for both black and white Arkansans. The highest rates were observed in 2007, with 467 cases per 100,000 persons observed in the population overall.



Geographically, the highest rates of new cases of cancer (all sites combined) appear in the central part of the state and the lowest rates appear in counties in the western part of the state. Because cancers are different diseases, it is not possible to make real judgments about what factors might be causing these disparities.



MORTALITY



Between 6000 and 6500 persons died of cancer each from 2006 through 2010. For the state overall, approximately 200 persons out of every 100,000 persons died of cancer in any given year. Rates were higher for black Arkansans (233 deaths per 100,000 persons) than for white Arkansans (190 deaths per 100,000 persons).

Geographically, the areas of the state that show the highest cancer mortality rates are generally located in the Delta counties in the eastern part of the state, as well as in the southeastern portion of the state. As noted in the discussion of geographic disparities in cancer incidence, however, the factors that may be associated with those geographic disparities are difficult to determine, as multiple diseases are responsible for these deaths.

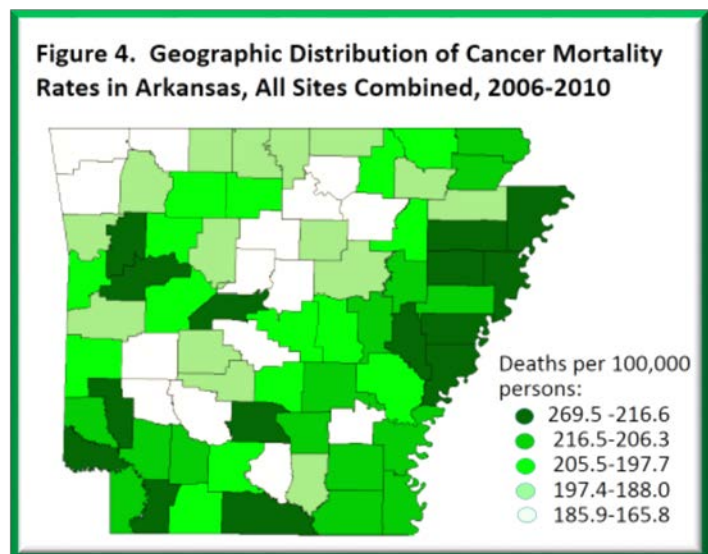


Table 2. Most common cancer deaths, Arkansas, 2006-2010

White		Black	
Cancer site	# deaths	Cancer site	# deaths
Lung	9237	Lung	1119
Colorectal	2457	Colorectal	465
Breast	1684	Breast	332
Pancreatic	1491	Prostate	325
Urinary	1322	Pancreatic	288
Prostate	1212	Female Genital	194

In both black and white Arkansans, lung cancer is the leading cause of cancer deaths, followed by colorectal cancer and breast cancer. Among Whites, pancreatic cancer and urinary cancer (including kidney, bladder, and other urinary cancers) complete the

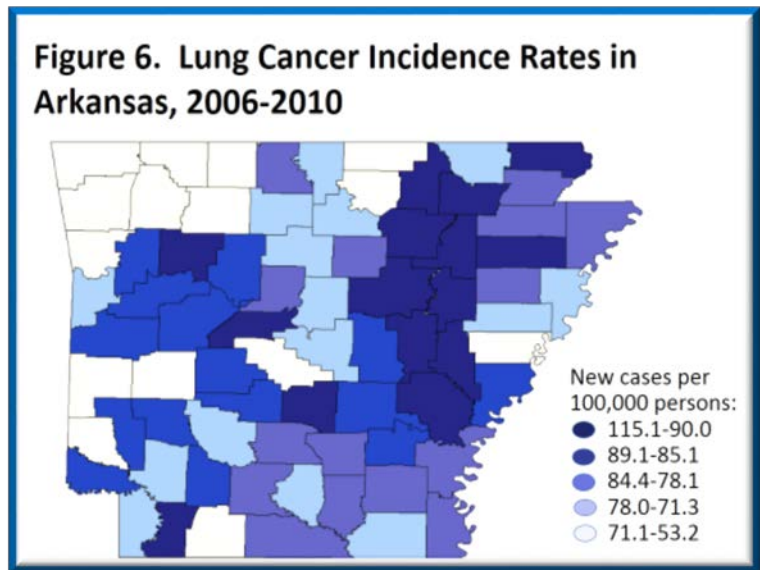
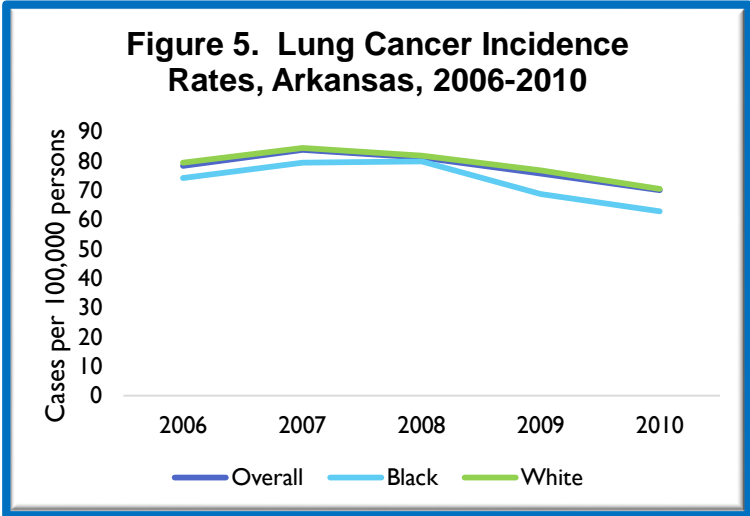
top five cancers. Among Blacks, prostate, pancreatic, and female genital cancers (including ovarian cancer and cervical cancer) are the next most common causes of mortality. The remainder of this report, then, focuses on five common sites: lung, colorectal, breast, prostate, and pancreatic cancers.

LUNG CANCER

Lung cancer is the leading cause of cancer deaths for both black and white Arkansans in recent years. In the 5-year period 2006-2010 there were nearly 13000 new cases of lung cancer, or between 2400-2700 new cases each year.

There are not substantial differences between white and black Arkansans with regard to the number of new cases of lung cancer that occur each year, though the rates for Blacks (73 new cases per 1000,000 persons) tend be slightly lower than those for Whites (78 new cases per 100,000 persons). This is likely related to historically lower rates of smoking and other tobacco use among Blacks (see discussion of Prevention, page 12).

The lowest incidence rates for lung cancer are found in the northwestern counties of the state, with Carroll County have the lowest rate at 53 new cases per 100,000 persons. The highest rates occur in clusters of counties in the central part of



the state (spanning east to west). Poinsett County had the highest incidence of lung cancer in the state, with 115 new cases per 100,000 persons.

During the period 2006 to 2010, more than 10,500 Arkansans died of lung cancer, or 64 of every 100,000 persons in the state. Lung cancer mortality rates are not substantially different for black and white Arkansans.

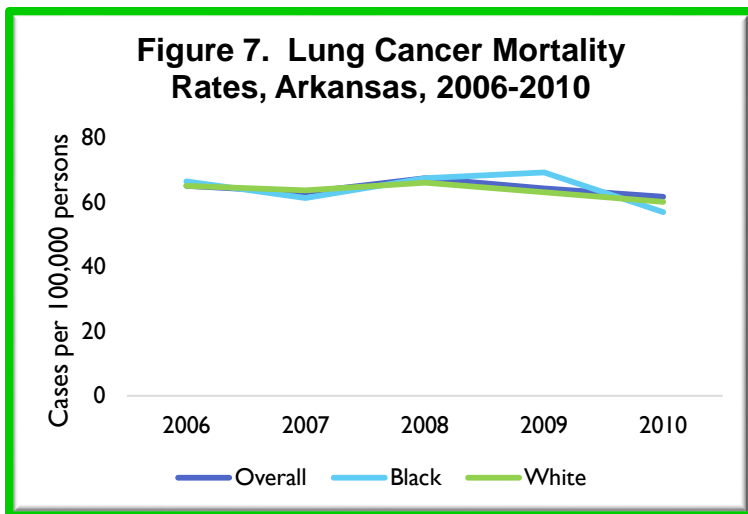
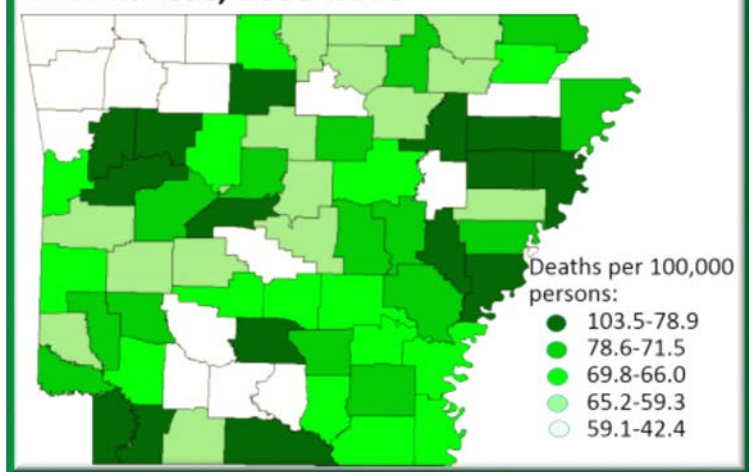


Figure 8. Lung Cancer Mortality Rates in Arkansas, 2006-2010

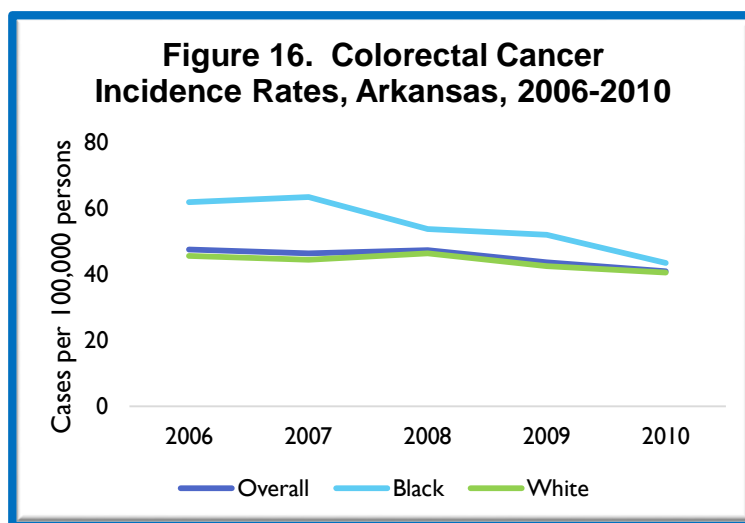


There is no consistent geographic pattern associated with lung cancer mortality. The highest rates were seen in Poinsett County (103 deaths per 100,000 persons), where the highest incidence rates were observed. Similarly, the lowest lung cancer mortality rate was found in Carroll County (42 deaths per 100,000 persons), where the lowest incidence rates were observed.

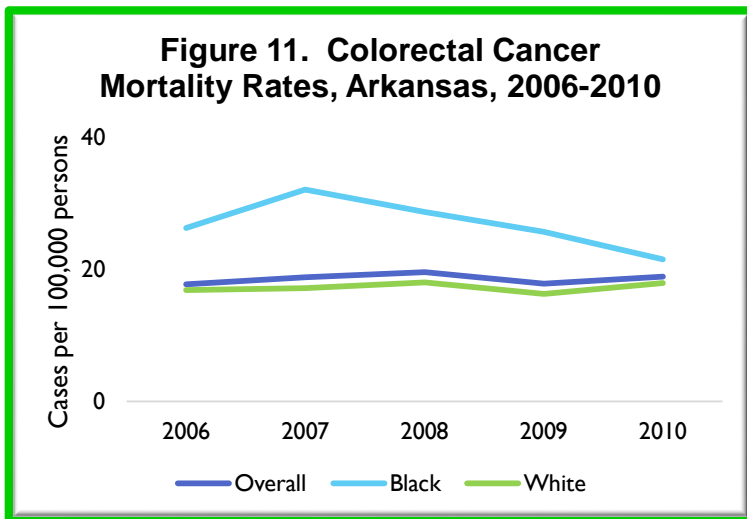
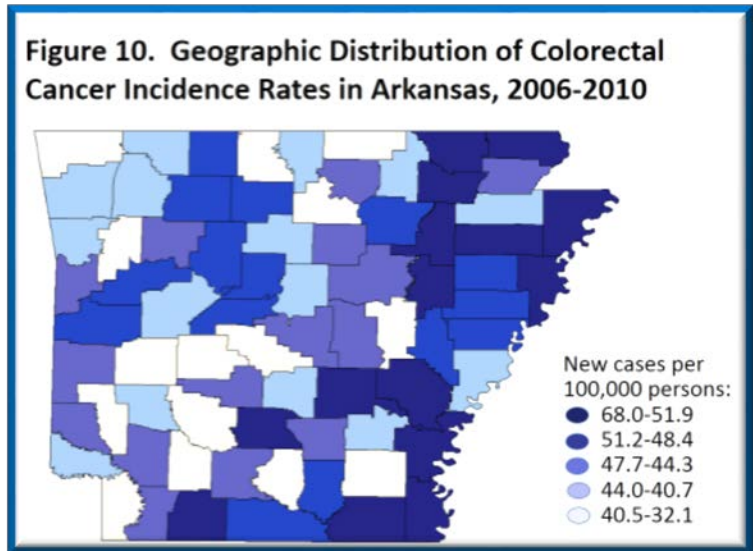
COLORECTAL CANCER

Colorectal cancer is second leading cause of cancer deaths for both black and white Arkansans. Approximately 7300 new cases of cancer of the colon or rectum were identified between 2006 and 2010. Rates are 25% higher among African Americans (55 new cases per 100,000 persons) than among Whites (44 new cases per 100,000 persons). Incidence rates overall have declined slightly over the period; however, the greatest decline has been seen in the rates among African Americans, which have been reduced from 62 cases per 100,000 persons in 2006 to 44 cases per 100,000 persons in 2010.

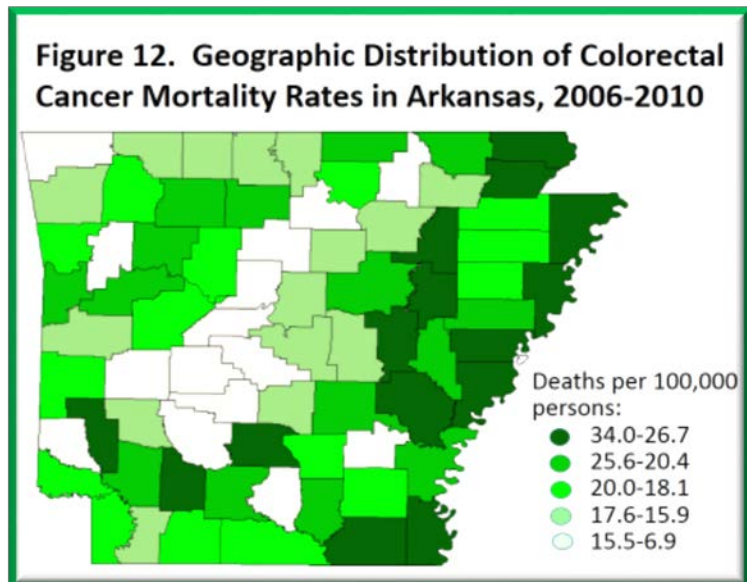
Figure 16. Colorectal Cancer Incidence Rates, Arkansas, 2006-2010



The highest incidence rates for colorectal cancer are seen in the eastern portion of the state, in the Arkansas Delta region. The county with the highest rate, Woodruff County (68 new cases per 100,000 persons), has an incidence rate more than twice that of the county with the lowest rate – Franklin County (32 new cases per 100,000 persons).



With regard to mortality, colorectal cancer was responsible for the death of 3000 Arkansans during the 5-year period. Between 550 and 630 persons died each year of colorectal cancer, or 18 to 20 deaths per 100,000 persons in the state. Death rates were higher for African Americans than for Whites during the period. However, while the mortality rates for white Arkansans remained essentially stable through the period at 17 deaths per 100,000 persons, mortality rates for African Americans declined from a high of 32 deaths per 100,000 persons in 2007 to 21 deaths per 100,000 persons in 2010.



The highest colorectal cancer death rates in the state were found in the Arkansas Delta region and in the southern/southwestern part of the state. The highest mortality rate was found in Phillips County (34 deaths per 100,000 persons) and the lowest rate was observed in Sharp County (7 deaths per 100,000 persons).

BREAST CANCER

Breast cancer is the third leading cause of cancer deaths among both African Americans and Whites in Arkansas. Approximately 9300 women were diagnosed with breast cancer in 2006 to 2010, between 1800 and 1900 women each year. Overall and for white Arkansans, incidence rates have declined somewhat during the period, while rates among African American women have remained essentially stable. Incidence rates for breast cancer have been higher among white women than among black women in Arkansas, but in the most recent year (2010), the rates for the two groups were the same.

Geographically, the highest rates of breast cancer are found in the central and northwestern parts of the state. The county with the highest breast cancer incidence rate was Izard County, with 135 new cases of breast cancer per 100,000 women. The county with the lowest rate as Jackson County, with 61 new cases per 100,000 women.

Breast cancer has been responsible for the death of some 2100 women in the 5-year period, or approximately 400 women per year. Death rates overall have been essentially stable over time for the state as a whole. However, breast cancer mortality among black women has shown a slight decline over the period, from a rate of 36 deaths per 100,000 women in 2006 to 30

Figure 13. Breast Cancer Incidence Rates, Arkansas, 2006-2010

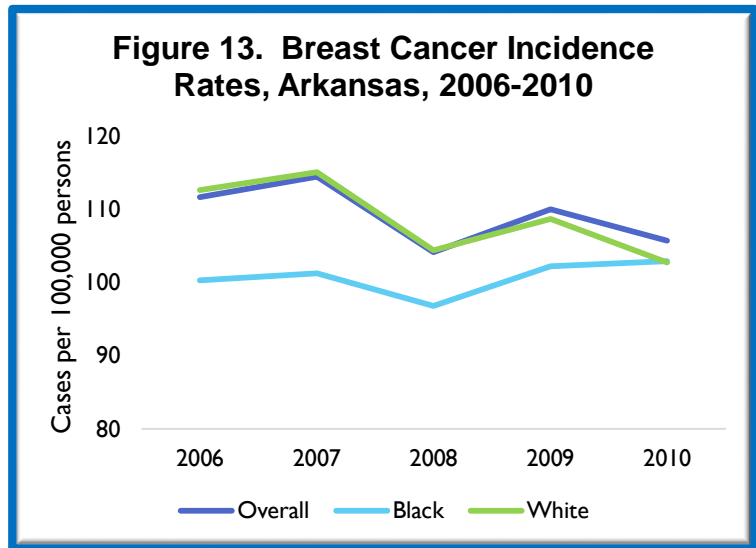


Figure 14. Geographic Distribution of Breast Cancer Incidence Rates in Arkansas, 2006-2010

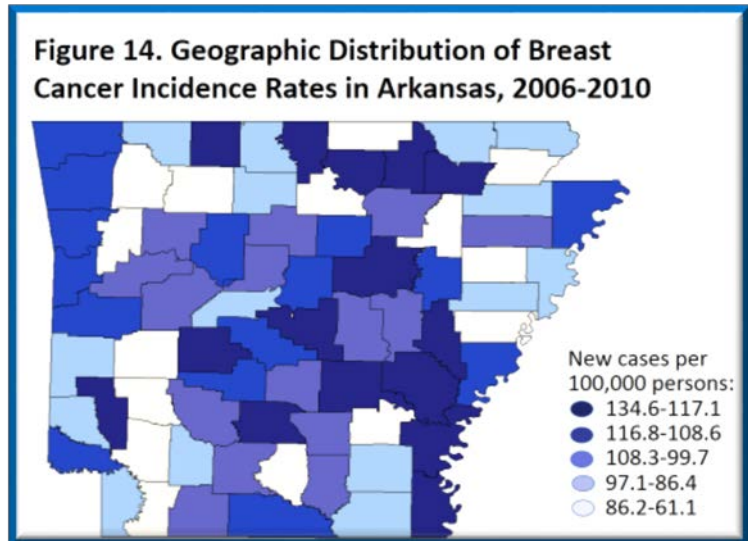


Figure 15. Breast Cancer Mortality Rates, Arkansas, 2006-2010

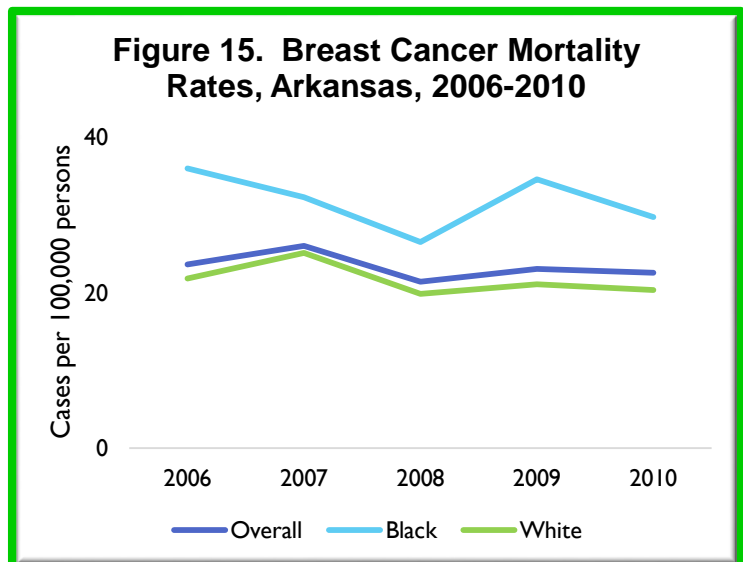
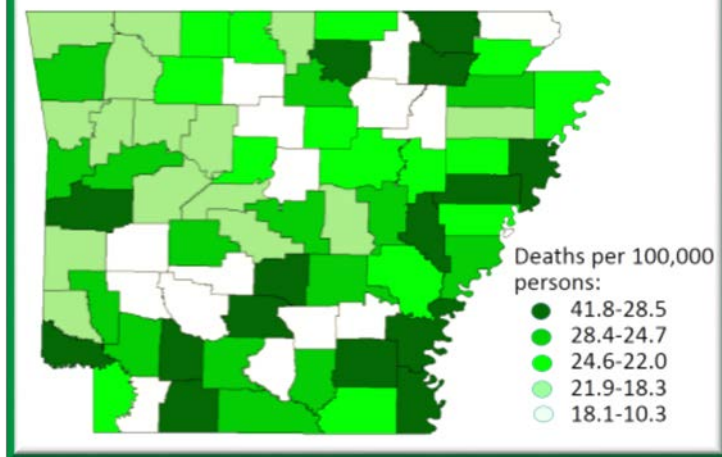


Figure 16. Geographic Distribution of Breast Cancer Mortality Rates in Arkansas, 2006-2010



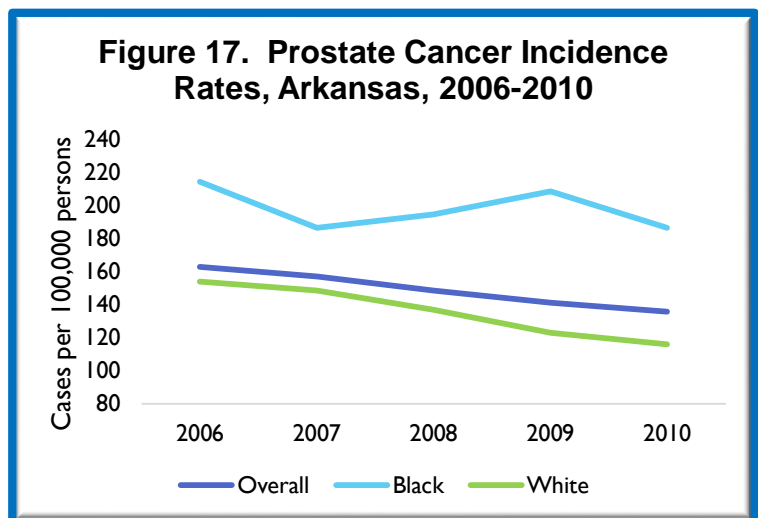
deaths per 100,000 women in 2010. Mortality rates for African American women remain higher than rates among their white counterparts.

Geographically, the greater burden of breast cancer death is found in the eastern and southern parts of Arkansas. Dallas County had the highest breast cancer mortality rate, at 42 deaths per 100,000 women. Clay County had the lowest death rate, at 10 deaths per 100,000 women.

PROSTATE CANCER

More than 11,400 men in Arkansas were diagnosed with prostate cancer in the five years between 2006 and 2010. Incidence rates declined over the period for both black and white men, but rates remain 60% higher for African Americans than for Whites.

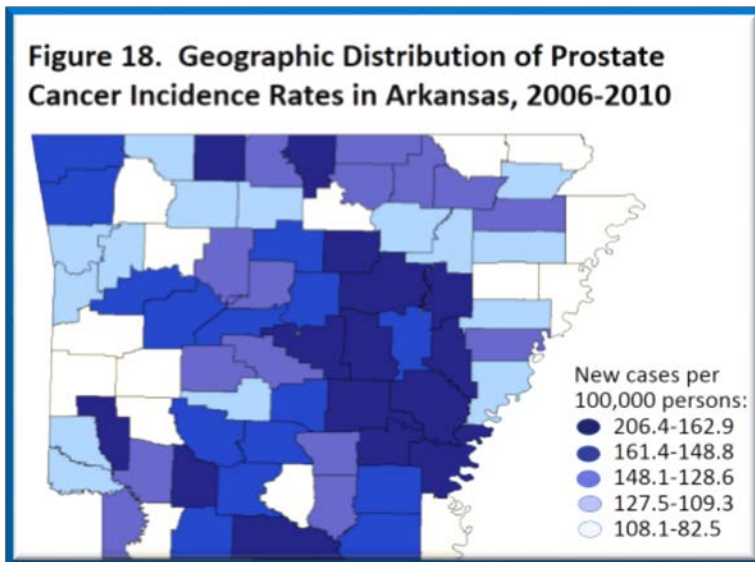
Figure 17. Prostate Cancer Incidence Rates, Arkansas, 2006-2010



The highest rates of prostate cancer are found in a band of counties running north to south in the center of the state. The highest incidence rate was found in Jefferson County (206 new cases per 100,000 men), while the lowest rate was found in Montgomery County (82 new cases per 100,000 men).

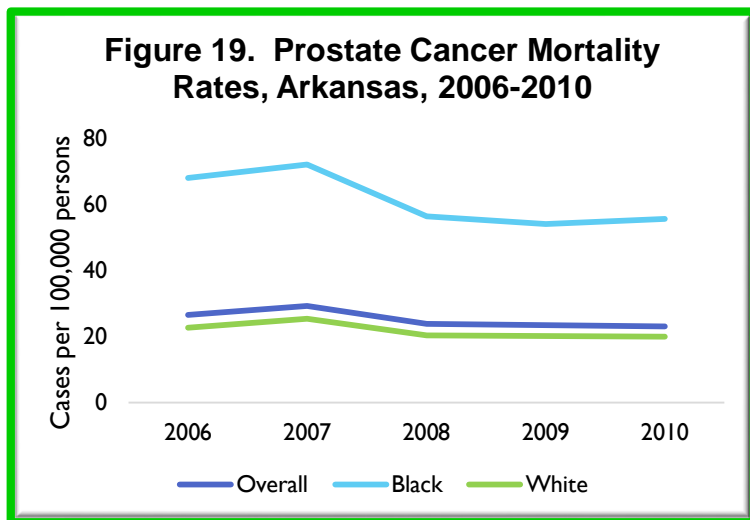
Prostate cancer has caused the death of more than 1550 men in Arkansas over the 5-year period. Mortality rates for African American men (61 deaths per 100,000 men) are nearly three times higher than those for white men (22 deaths per 100,000 men) are nearly three times

higher than those for white men (22 deaths per 100,000 men). However, while rates for white men have remained essentially stable over time, mortality rates for African American men have declined,



from a high of 72 deaths per 100,000 men in 2007 to a more recent rate of 55 deaths per 100,000 men in 2010.

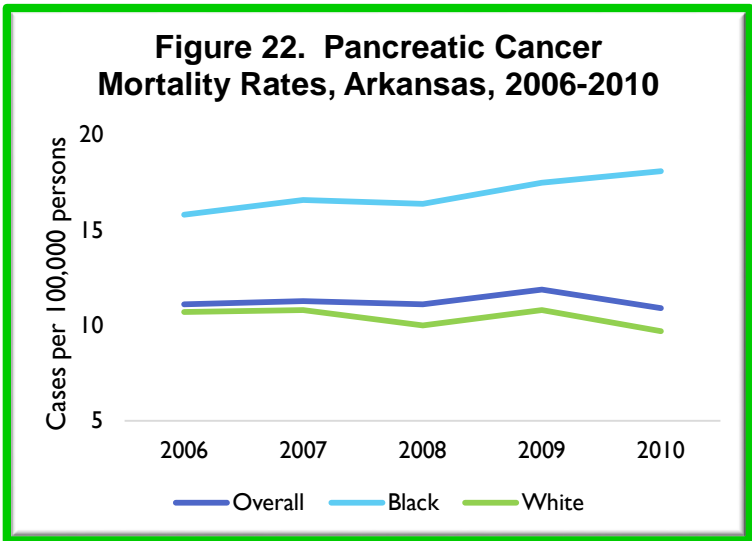
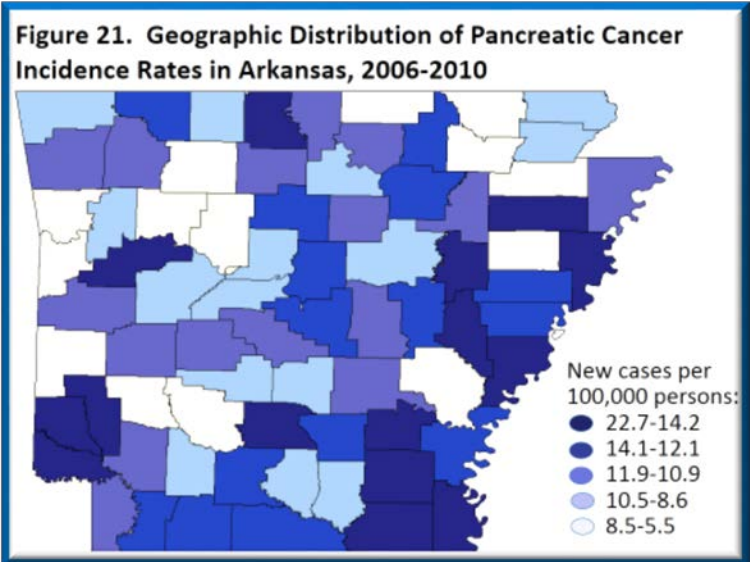
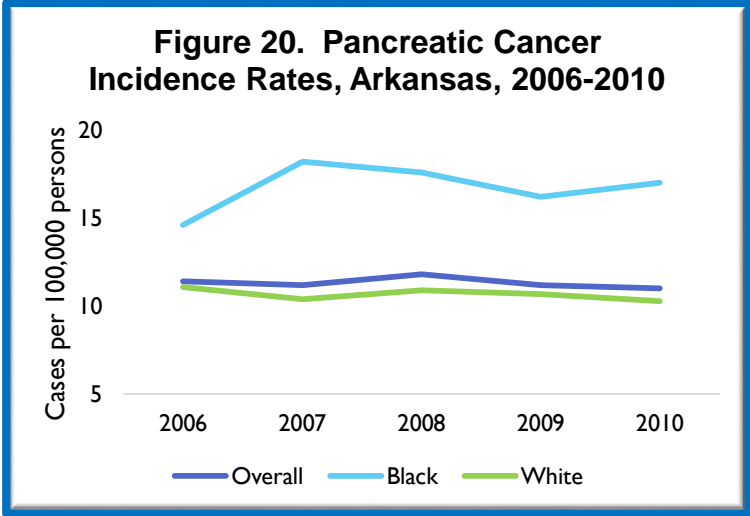
The geographic distribution of prostate cancer mortality rates is not presented, because the data at the county level are not sufficient to provide stable estimates of mortality rates in all counties.



PANCREATIC CANCER

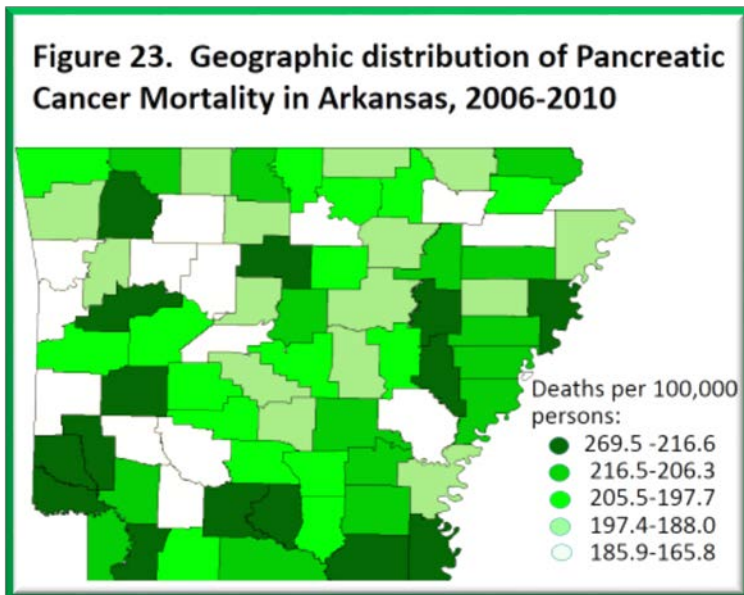
Pancreatic cancer is the fourth leading cause of cancer death among white Arkansans and the fifth leading cause among black Arkansans. Rates for Whites and for the state overall have been relatively stable over time, at 11 new cases per 100,000 persons. However, rates are approximately 50% higher among African Americans and have increased somewhat over time, from a low of 15 new cases per 100,000 persons in 2006 to a high of 17 new cases per 100,000 persons in 2010.

The highest pancreatic cancer incidence rate was seen in Woodruff County (23 new cases per 100,000 persons). The lowest rate was observed in Fulton County (5 new cases per 100,000 persons).



Pancreatic cancer caused some 1800 deaths in Arkansas from 2006 to 2010. Mortality rates have been relatively stable over time, at 11 deaths per 100,000 persons. Rates among African Americans (17 deaths per 100,000 persons) are 70% higher than among white Arkansans (10 deaths per 100,000 persons).

Figure 23. Geographic distribution of Pancreatic Cancer Mortality in Arkansas, 2006-2010



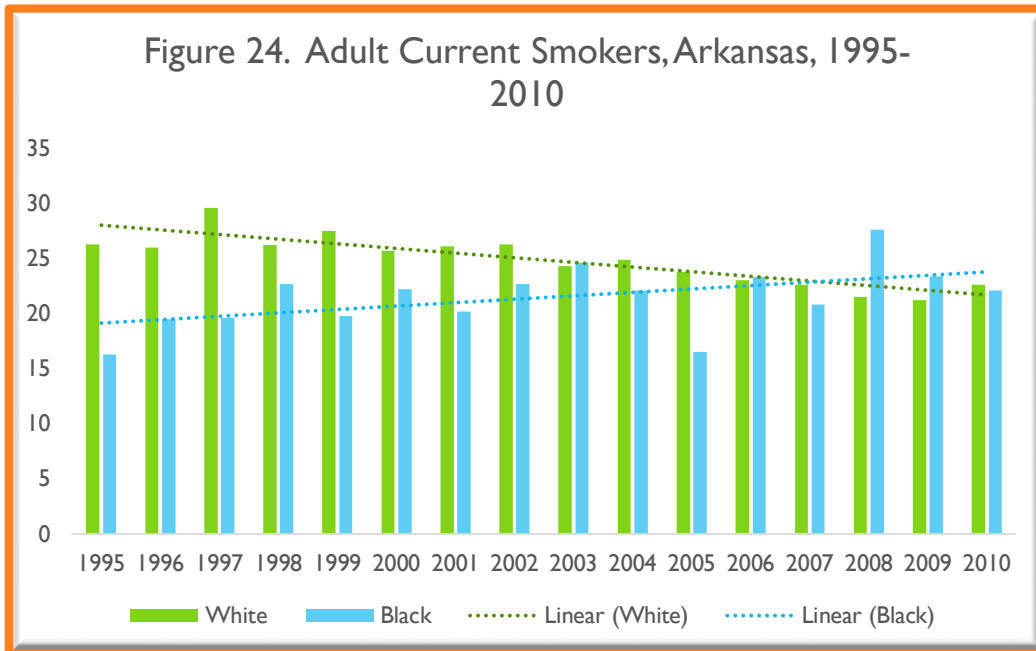
Geographically, there is no discernible pattern of pancreatic cancer mortality in Arkansas. The county with the highest mortality rate (20 deaths per 100,000 persons) was Crittenden County. The lowest rate (4 deaths per 100,000 persons) was found in Clark County.

PREVENTION

Many of the factors associated with the development of cancer (for example, family history, age, gender) cannot be modified. Others, such as tobacco use, for example, can be changed. The American Cancer Society estimates that a third of cancers are caused by tobacco use and that another third may be associated with obesity, poor diet, and physical inactivity.¹ Eating diets low in red meat and processed foods and high in fruits and vegetables, and being physically active are strongly recommended for the prevention of many cancers.¹

Specific results of the Behavioral Risk Factor Surveillance System (BRFSS)³ with regard to key cancer risk factors – e.g., tobacco use, eating insufficient fruits and vegetables, being physically inactive – are summarized in Figures 24 (tobacco use), 25 (daily servings of fruits and vegetables), and 26 (physical activity).

Figure 24. Adult Current Smokers, Arkansas, 1995-2010

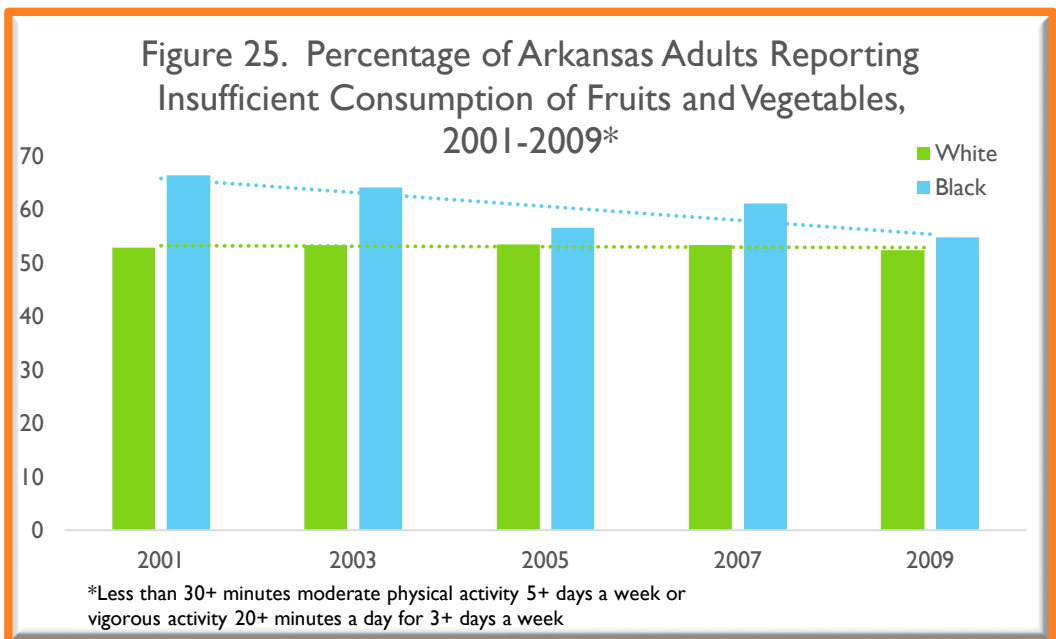


Historically, tobacco use has been less frequently reported by black Arkansans than by white Arkansans. That pattern changed after 2007, however; in more recent years, the percentage of African Americans reporting that they are current

smokers has been higher than the percentage of Whites. This places African Americans at greater risk in future years for those cancers that are associated with tobacco use, such as lung cancer, bladder cancer, and others.

More than three-fourths of adult Arkansans report that they do not eat sufficient quantities of fruits and vegetables (that is, they eat fewer than 5 servings per day), which places them at greater risk of developing some cancers. While the

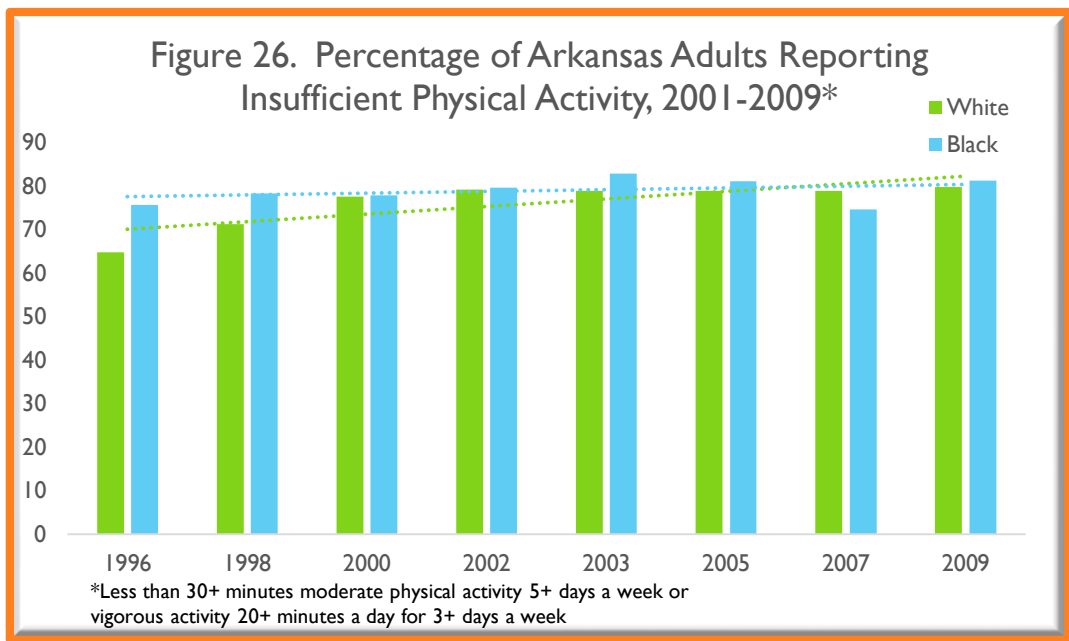
Figure 25. Percentage of Arkansas Adults Reporting Insufficient Consumption of Fruits and Vegetables, 2001-2009*



*Less than 30+ minutes moderate physical activity 5+ days a week or vigorous activity 20+ minutes a day for 3+ days a week

proportion of white adults reporting this unhealthy behavior has remained essentially stable over the past 10 years, the proportion of African Americans has shown a trend downward over the period.

Figure 26. Percentage of Arkansas Adults Reporting Insufficient Physical Activity, 2001-2009*



Physical activity is an important part of achieving and maintaining a healthy weight, reducing obesity, and thereby reducing one's risk of some types of cancer. It is recommended that adults engage in at least 30 minutes of moderate physical

activity on 5 or more days per week or 20 minutes of vigorous activity on at least 3 days per week. Unfortunately, the majority of adults, both black and white, do not meet these recommendations. The proportion of white adults who are physically inactive showed a slight trend upward between 1996 and 2009, while the proportion of physically inactive black adults remained essentially stable.

References

1. American Cancer Society. *Cancer Facts & Figures 2014*. Atlanta: American Cancer Society; 2014.
2. American Cancer Society. *Cancer Facts & Figures for African Americans 2013-2014*. Atlanta: American Cancer Society; 2013.
3. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System: Prevalence and Trends. Accessed June 29, 2014 at: www.cdc.gov/brfss.