

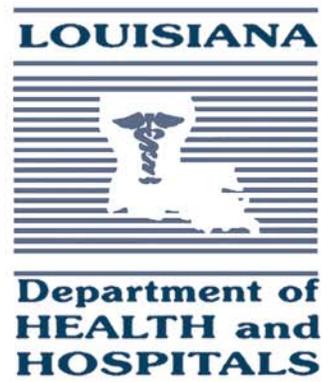
# Health Risks

Among Louisiana Adults: 2004-2006



A Report from the  
Behavioral Risk Factor Surveillance System

BUREAU of  
 **Primary Care  
& Rural Health**





# **HEALTH RISKS AMONG LOUISIANA ADULTS: 2004-2006**

**A REPORT FROM THE BEHAVIORAL RISK  
FACTOR SURVEILLANCE SYSTEM**

## **LOUISIANA DEPARTMENT OF HEALTH AND HOSPITALS BUREAU OF PRIMARY CARE AND RURAL HEALTH CHRONIC DISEASE PREVENTION AND CONTROL PROGRAM**

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The Health Informatics Center of Acadiana (HICA) at the University of Louisiana at Lafayette serves students, faculty, healthcare providers, and the public at large. Currently the HICA is using the computer-assisted telephone interviewing resources in its Research Call Center to gather data for the CDC's Behavioral Risk Factor Surveillance System (BRFSS) in Louisiana, for a special BRFSS associated with the Steps to a Healthier New Orleans program, and for the Louisiana Adult Tobacco Survey.

## **LOUISIANA PUBLIC HEALTH INSTITUTE (LPHI)**

The initiatives of LPHI improve the health of Louisiana's people and communities, and provide information for decision making and policy development. LPHI contributed to the analysis and presentation of key Louisiana BRFSS data.

We would like to extend a special thank you to the residents of Louisiana who took the time to participate in the survey and provide information critical to understanding the health status of the people of Louisiana.

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## INTRODUCTION

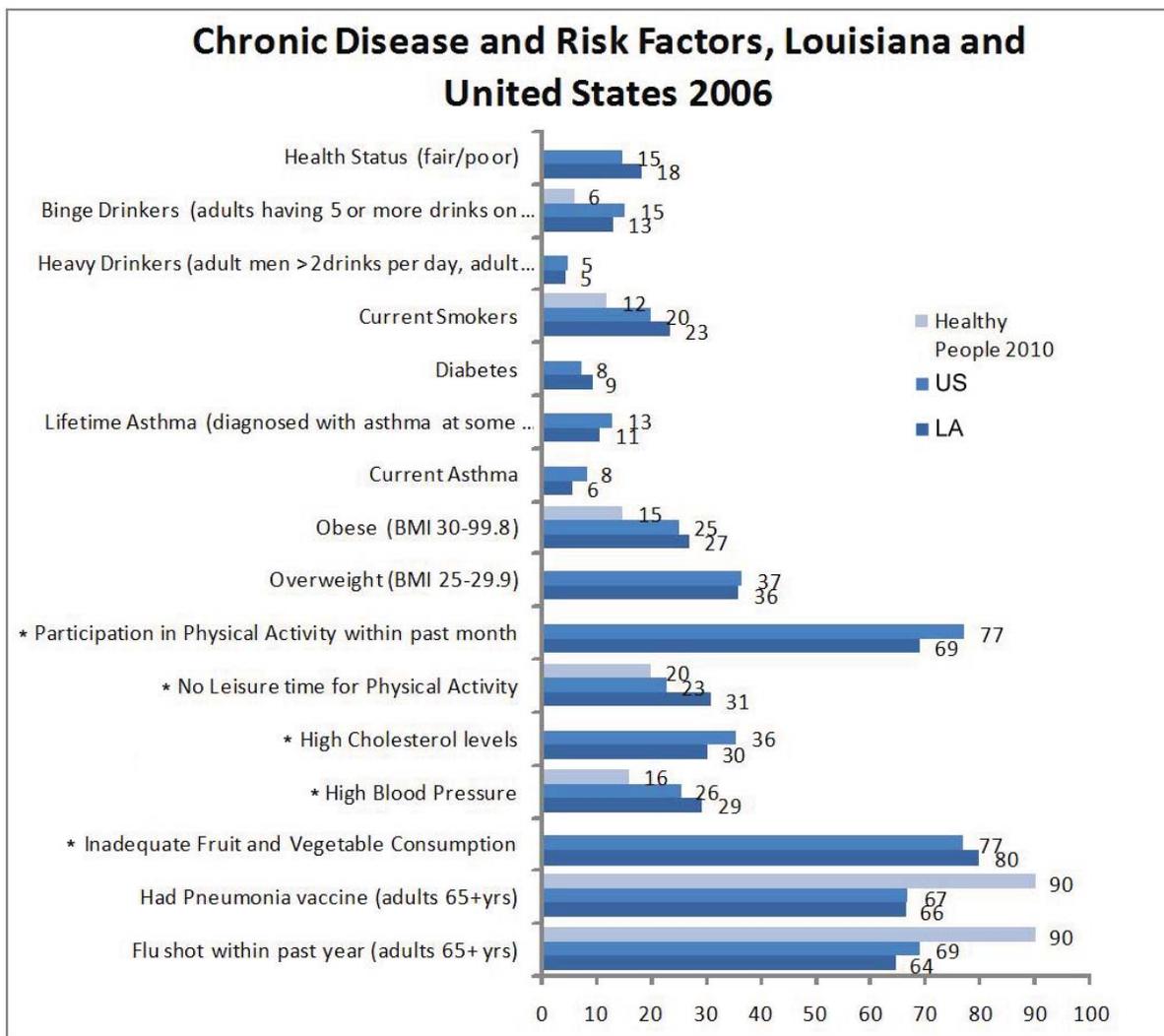
“More than half of all Americans suffer from one or more chronic diseases...costing the economy more than one trillion annually” (Devol, R and Bedroussian, A, 2007). In addition, chronic diseases are the leading causes of morbidity and mortality in Louisiana and in the United States. The impact of treatment costs, reduced labor supply and resources diverted away from providing insurance coverage or investing in healthcare infrastructure is enormous. An abundance of research shows however, that healthy behaviors can play a vital role in prevention and management of chronic conditions (CDC, 1997). Further, accessing preventive health care services such as immunizations and cancer screenings has been shown to reduce the impact of chronic diseases. The Centers for Disease Control and prevention (CDC) provides a variety of tools to assist states in combating chronic diseases at local and state levels, including information about individual health-related behaviors that directly affect the prevalence of chronic diseases.

Established in 1984 by the CDC, the Behavioral Risk Factor Surveillance System (BRFSS) is a state-based system of health surveys that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. The BRFSS, administered and supported by the Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC, is an ongoing data collection program. It incorporates a randomized telephone survey of adults aged 18 years and above. For many states, the BRFSS is the only available source of timely, accurate data on health-related behaviors.



Currently, data are collected monthly in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. More than 350,000 adults are interviewed each year, making the BRFSS the largest telephone health survey in the world. States use BRFSS data to identify emerging health problems, establish and track health objectives, and develop and evaluate public health policies and programs. Many states also use BRFSS data to support health-related legislative efforts. For more information about the BRFSS, visit the CDC's BRFSS web site and information center at <http://www.cdc.gov/brfss>.

In addition to the BRFSS, states also have a comprehensive health promotion and disease prevention agenda set forth by the U.S. Department of Health and Human Services in the form of *Healthy People 2010*. *Healthy People 2010* is comprised of 467 objectives designed to serve as a road map for improving the health of all people in the United States during the first decade of the 21st century. It serves to increase quality and years of healthy life and eliminate health disparities through setting forth common objectives and indicators. Information on many of the indicators that the BRFSS collects is directly related to the objectives and indicators of *Healthy People 2010*.



\*2005

## HISTORY

By the early 1980s, scientific research clearly showed that personal health behaviors play a major role in premature morbidity and mortality. Although national estimates of health risk behaviors among U.S. adult populations had been periodically obtained through surveys conducted by the National Center for Health Statistics (NCHS), these data were not available on a state-specific basis. This deficiency was viewed as critical for state health agencies that have the primary role of targeting resources to reduce behavioral risks and their consequent illnesses. National data may not be appropriate for any given state; however, state and local agency participation was critical to achieve national health goals.

About the same time as personal health behaviors received wider recognition in relation to chronic disease morbidity and mortality, telephone surveys emerged as an acceptable method for determining the prevalence of many health risk behaviors among populations. In addition to their cost advantages, telephone surveys were especially desirable at the state and local level, where the necessary expertise and resources for conducting area probability sampling for in-person household interviews were not likely to be available.

As a result, surveys were developed and conducted to monitor state-level prevalence of the major behavioral risks among adults associated with premature morbidity and mortality. The basic philosophy was to collect data on actual behaviors, rather than on attitudes or knowledge, that would be especially useful for planning, initiating, supporting and evaluating health promotion and disease prevention programs.

To determine feasibility of behavioral surveillance, initial point-in-time state surveys were conducted in 29 states from 1981-1983. In 1984, the CDC established the BRFSS, and 15 states participated in monthly data collection. Although the BRFSS was designed to collect state-level data, a number of states from the outset stratified their samples to allow them to estimate prevalence for regions within their respective states.

Through this process, the CDC developed standard core questionnaire for states to use to provide data that could be compared across states. By 1994, all states, the District of Columbia, and three territories were participating in the BRFSS.

In recent years, Louisiana's Chronic Disease Prevention and Control Unit, which directs the state's BRFSS, was administered through Louisiana's Office of Public Health housed in New Orleans. On August 29, 2005, hurricane Katrina devastated the region and caused the office to relocate in various areas around the state. Following the migration from New Orleans, the Chronic Disease Prevention and Control Unit integrated into the Louisiana Department of Health and Hospitals' (DHH) Bureau of Primary Care and Rural Health (Bureau) in October 2006.

The Bureau is the office within DHH dedicated to improving the health status of Louisiana residents in rural and underserved areas by working proactively to build community health systems' capacity to provide integrated efficient and effective health care services. Through work with local and state partners, the Bureau is committed to developing strong community partnerships and integrated primary health care services in order to reduce health disparities in the state. Directing the state's BRFSS allows the Bureau to more effectively provide timely and relevant health information to all levels of health care stakeholders in the state.

## **PERSONAL HEALTH BEHAVIORS PLAY A MAJOR ROLE IN PREMATURE MORBIDITY AND MORTALITY**

## METHODOLOGY

The BRFSS is a comprehensive and flexible questionnaire. The questionnaire is a result of extensive collaborations between experts from federal, state and independent organizations. The origins of the BRFSS began with the intent of providing federal and state officials with viable estimates of rates of chronic diseases among citizens within the United States. Along with the estimates, the survey would also provide information relating to various risk factors of the citizens.



Because the BRFSS encompasses many different topics and questions, the validity may vary for some sections or modules within the survey. Smaller groups such as racial groups may be excluded from the analysis because a low percentage of participation from a particular group may not accurately reflect the entire group as a whole. This can be discouraging for intervention programs that may want to target specific groups within the population.

However, there have been many studies examining the reliability and validity of the BRFSS and the system's ability to provide valid national estimates and state comparisons. While some studies looked at particular topic areas and others addressed the instrument as a whole, studies mostly agree that individual topic area questions are at least moderately reliable and valid, and many areas are highly reliable and valid.

The questionnaire itself consist of four major components: core questions, rotating core questions, optional questions and state-added questions. Core, rotating core and optional questions are standardized, and thus result in comparable data across all states that can also be merged to provide national estimates. State-added questions are added on a yearly basis, based on what information state agencies would like to acquire the following year. Core questions form the basis of the BRFSS and are generally used by each state. The rotating core questions are also asked by each state; however the rotating core questions are used on a biennial basis. One set of questions are asked on even numbered years (ie. 2002, 2004, 2006) and another set administered on odd numbered years (ie 2003, 2005, 2007). The optional question section consists of groups of questions supported by the CDC that each state selects to be included on the questionnaire.

Overall, the BRFSS questionnaire length is determined by time and not by the number of questions. Prior studies indicate that respondents are not likely to complete a survey administered by phone that extends beyond 20 minutes. Therefore, the time limit for the BRFSS questionnaire is 20 minutes.

## SAMPLING

The method for selecting telephone numbers is a statistically valid procedure that relies on the probability of selecting a sample that will generalize results representative of the total population in the state, as well as the nation. Beginning in 2003, Louisiana began using a Disproportionate Stratified Sampling technique to select the phone numbers for the sample to be used for the BRFSS. The phone numbers are computer generated listings of 100 consecutive phone numbers that contain at least one published household telephone number. These blocks are assigned to two strata: 1) high density or listed numbers and 2) low density or unlisted numbers. A stratum is defined as a discrete subdivision of a sampling frame. The sampling frame is the set of all active telephone numbers in the state that could be possibly assigned to households. The sampling ratio for these two strata is 1.5:1, in which the high density stratum is sampled at the rate 1.5 times that of the low density stratum.

## INTRODUCTION

Currently, only households with landlines are included within the sampling frame. Because of the increased use of cell phones as means for communication, there is a strong possibility that a segment of the population is excluded from the sampling frame. Pilot studies are underway at the CDC and the state level that will test different approaches to screening and interviewing cell phone users for inclusion in the BRFSS survey. Louisiana will launch its own CDC supported investigation into testing and adopting cell phone survey methods.

### ANALYSIS

The demographic characteristics displayed in the tables for each section of this report represent the respondents of the survey. The income levels describe income for the entire household, not the respondent alone. If respondents did not know an answer, refused to answer, or did not respond for whatever reason, they were not included in the calculations of the percentages. The percentages calculated were specific to the respective category.

The data tables also display the 95% confidence intervals (CI) that are associated with each percentage. The 95% confidence interval represents the range within which it would be expected to find the true value of the percentage or point estimate 95 times out of 100 attempts. For the smaller sample sizes the confidence intervals will be wider compared to larger sample sizes. The sample size for each category is labeled within the column titled "Sample Size" or "N." Percentages with sample sizes less than 50 will have a large sampling error and should be used with caution, particularly with the estimates on the parish level. For some sections, the odds ratio, represented by an OR, is used to estimate the likelihood of an event to occur between two groups. In a few cases, statistical tests are used to show there was no difference in the rates between two groups. A value (p) is displayed with the estimate to support the statement. If the p value  $>.05$ , then there is no statistical difference at that level in the rates among the stated groups in comparison.

All of the results from the 2004-2006 Louisiana Behavioral Risk Factor Survey have been weighted as mentioned in the sampling section. The information can be interpreted as estimates of the prevalence of chronic disease and various risk factors representative of the general population of Louisiana. The sample size for 2006 was 7,084. The sample size was adequate for estimating the overall rates for the general population. However, subpopulations (e.g., Hispanics, Asians, Native Americans) were not included because of the low number of respondents. In the demographics portion of the BRFSS, the household income question had the highest refusal rate. SAS v9.1 software was used to calculate all of the estimates and create maps within this report.

### GEOGRAPHIC RESULTS

The years of particular interest for this report are years 2004, 2005 and 2006. Because of sample size differences and strengths between the three years, the year 2004 was used to calculate rates on a regional level. Sections that have geographical analysis provide a table that lists all nine DHH administrative regions within Louisiana with their respective prevalence rate, sample size and confidence interval. There is also a color coded map that displays the prevalence rates for each parish where available. A legend alongside the map displays the percentage range for each color. A table is presented which displays the ten highest rates for each parish based on the topic covered in the section.

The BRFSS results from the years 2004, 2005 and 2006 were catenated to form one dataset for the parish level analysis. The purpose for this was to increase the sample sizes for the less populated parishes in an attempt to reduce the sampling error. However, this was not the case for the parishes of Tensas, Red River, St Helena, W Feliciana, and E Carroll. The general rule of thumb as provided by the CDC is that the recommended sample sizes should be greater than 50 for the population that is being described. The stated parishes did not have a sample size greater than 50. As a result, estimates for Tensas, Red River, St Helena,

W Feliciana and E Carroll should be used with extreme caution because the estimates may not be representative of the parish.

## LIMITATIONS OF SURVEY DATA

The utilization of a telephone survey has advantages over traditional postal mail surveys such as better quality control, lower costs and speed of data collection, but there are a few limiting factors that concern the BRFSS. One limitation is the exclusion of cell phones from the survey. There are a number of individuals that exclusively use cell phone. Also, there is the issue of self reporting. Respondents may have a tendency to underreport health risk behaviors, especially those behaviors that are illegal and/or socially unacceptable. While racial and ethnic disparities in access to and quality of health care are real and only partially explained by other factors such as socioeconomic status or geography, it should not be assumed that race is the sole determinant for differences observed in rates between different groups.

To address these and other limitations, the CDC hosted two panels (2002 and 2004) of experts in statistics, methods and operations to discuss the challenges facing the field of survey research and implications for the BRFSS. The meetings focused on technological, methodological and system challenges, as well as statistical and operational issues. Each meeting generated formal recommendations around such topics as complex weighting and imputation procedures, incentives and alternative sampling frames. Many recommendations have since been implemented or are in progress.

## DATA NOTE

The primary objective of this report is to present the status of chronic disease among the residents of Louisiana and examine the risk factors of the residents. Most of the descriptive tables come from the results of the 2006 survey. Some modules such as hypertension awareness, cholesterol screening and fruits/vegetables consumption were not asked in 2006 BRFSS. In these cases, results from the 2005 survey were used for the stated modules. As noted, where necessary and available to provide significant data at the parish level, responses are aggregated across multiple years according to CDC BRFSS methods.

829.24	-8.22	11.32%	4.22	-0.22	10.00%
211.93	-9.42	11.56%	\$38.34	-8.22	11.32%
205.36	-6.82	10.32%	21.23	+9.32	11.56%
72.29	-0.21	11.10%	20.34	+0.32	10.32%
2,422.00	13.19	10.08%	72.20	-0.21	13.10%
3.98	-9.33	10.66%	5,322.00	+3.12	10.04%
23.03	-3.48	15.29%	3.00	-9.33	10.66%
238.27	7.93	18.12%	23.03	-3.38	15.29%
996.10	-3.03	10.89%	238.27	-7.93	18.12%
38.31	-6.34	10.93%	928.10	+3.03	10.89%
4.24	-0.09	11.93%	38.23	+0.34	10.93%
46.02	-3.23	11.38%	4.23	+0.00	11.93%
47.35	-3.96	10.12%	46.02	-3.23	11.32%
74.32	-3.21	10.99%	47.35	+3.98	10.32%
2,494.87	-0.39	10.15%	74.32	-2.21	10.73%
2.48	+2.73	10.62%	532.98	+3.96	10.42%
332.45	+2.09	11.87%	73.12	+1.32	12.12%
86.35	-3.03	10.89%	533.22	-3.21	10.89%
4.21	-0.34	10.93%	8,212.30	-0.32	10.32%
132.09	-0.00	11.93%	3.00	+9.73	10.92%
33.83	-2.23	13.78%	63.96	+9.32	11.56%
97.92	-2.33	11.32%	234.22	-0.32	10.32%
23.12	-2.21	10.73%	63.12	+2.09	11.87%
532.98	+3.96	10.42%	2.32	-0.21	13.10%
73.12	+1.32	12.12%	74.75	+0.32	12.23%
533.22	-3.21	10.89%	59.43	+4.10	11.93%
3.00	+9.73	10.92%	92.42	-0.33	10.93%
63.96	+9.32	11.56%	929.32	+3.03	10.89%
234.22	-0.32	10.32%	23.32	-0.34	10.93%
63.12	+2.09	11.87%	996.10	-3.03	10.89%
2.32	-0.21	13.10%	38.23	+3.23	13.78%
24.12	+3.33	10.32%	4.23	-0.00	11.93%
74.75	+0.32	12.23%	46.02	-89.21	10.73%
59.43	+4.10	11.93%	47.35	-3.96	10.32%
92.42	-0.33	10.93%	74.32	-1.12	12.12%
929.32	+3.03	10.89%	2,494.87	-9.21	10.99%
23.32	-0.34	10.93%	74.75	-0.32	12.23%
996.10	-3.03	10.89%			
38.23	+3.23	13.78%			
4.23	-0.00	11.93%			
46.02	-89.21	10.73%			
47.35	-3.96	10.32%			
74.32	-1.12	12.12%			
2,494.87	-9.21	10.99%			
74.75	-0.32	12.23%			

# DEMOGRAPHIC CHARACTERISTICS

## Demographic Characteristics of Louisiana BRFSS Respondents

Demographic characteristics including age, gender, race, education, HH income and employment status. Behavioral Risk Factor Surveillance System, Louisiana 2006

CHARACTERISTIC+	SAMPLE SIZE	%	95% CI
<b>AGE</b>			
18-24	392	14.7	(13.2-16.1)
25-34	923	18.0	(16.7-19.3)
35-44	1259	18.5	(17.4-19.6)
45-54	1604	19.1	(18.0-20.1)
55-64	1360	13.8	(12.9-14.6)
65+	1546	16.0	(15.2-16.9)
<b>GENDER</b>			
MALE	2421	47.7	(46.2-49.3)
FEMALE	4663	52.3	(50.7-53.8)
<b>RACE</b>			
WHITE	5008	63.5	(61.9-65.0)
BLACK	1545	27.5	(26.0-28.9)
<b>EDUCATION</b>			
DID NOT GRADUATE HS	953	14.4	(13.2-15.6)
GRADUATED FROM HS	2284	32.8	(31.3-34.2)
ATTENDED COLLEGE	1721	24.3	(23.0-25.6)
GRADUATED COLLEGE	2114	28.5	(27.2-29.8)
<b>HOUSEHOLD INCOME</b>			
<15,000	853	12.8	(11.6-13.9)
15,000-25,000	1079	18.5	(17.2-19.8)
<\$25,000-35,000	785	12.9	(11.8-14.0)
\$25,000-\$50,000	902	16.9	(15.6-18.2)
\$50,000+	2174	38.9	(37.4-40.5)
<b>EMPLOYMENT</b>			
EMPLOYED	3332	50.9	(49.4-52.4)
SELF EMPLOYED	536	7.9	(7.1-8.7)
UNEMPLOYED	326	6.2	(5.3-7.1)
HOME-MAKE /STUDENT	808	12.7	(11.7-13.8)
RETIRED	1511	15.8	(14.9-16.6)
UNABLE TO WORK	545	6.5	(5.9-7.2)

## DEFINITION OF TERMS AND RISK FACTORS

### ALCOHOL CONSUMPTION

Binge Drinking - Respondents that reported that they have had at least five drinks on one or more occasion during the past thirty days.

Heavy Drinking - Male respondents that reported having more than two drinks per day and female respondents that reported having more than one drink per day during the past thirty days.

### ASTHMA

Lifetime Asthma - respondents that indicated that they were diagnosed with asthma by an health care professional at some point in time of their life.

Current Asthma - respondents that indicated that he or she currently has asthma.

### CARDIOVASCULAR HEALTH

Heart Attack - respondents that indicated that they were told by a healthcare professional that they had a heart attack or myocardial infarction.

Stroke - respondents that indicated that they were told by a healthcare professional that they had a stroke.

Coronary Heart Disease - respondents that indicated that they were told by a health care professional that they had angina or coronary heart disease.

### CHOLESTEROL AWARENESS

Ever had cholesterol checked - respondents who reported ever had cholesterol checked in their lifetime.

Had cholesterol checked in 5 years - respondents who reported having cholesterol checked in past five years.

Ever told high cholesterol - reported that they were told to have a high level of cholesterol by a doctor, nurse or health care professional.

### COLORECTAL CANCER SCREENING

Adults aged 50+ Had Blood Stool Test Past 2 Years - respondents aged 50 years and above who reported that they had a blood stool test in past 2 years.

Adults aged 50+ Had Colonoscopy - respondents aged 50 years and above that reported ever had sidmoidoscopy or colonoscopy in their lifetime.

### DIABETES

The respondents who reported that they were told by a health professional that they had diabetes. Women who had diabetes only during pregnancy and adults who were diagnosed with pre-diabetes were excluded.

## DEFINITION OF TERMS AND RISK FACTORS

### FRUITS AND VEGETABLES

Adequate Fruit and Vegetable Consumption - respondents that reported fruit and vegetable consumption was more than 5 times per day on average.

### HEALTH CARE ACCESS / UTILIZATION

No Personal Health Care Provider - adults aged 18-64 who reported that they did not have anyone that they thought of as their personal doctor or health care provider.

No Health Care Access Due to Cost - adults aged 18-64 who reported that there was a time in the past 12 months they could not see a doctor when they needed to due to cost.

No Health Care Coverage - adults aged 18-64 who reported that there was a time in the past 12 months they could not see a doctor when they needed to due to cost.

### HYPERTENSION

Hypertensive residents - respondents that reported that they were ever told by health care professional that they have high blood pressure. Women who only have high blood pressure during pregnancy and adults who were borderline hypertensive are not included.

### QUALITY OF LIFE

General Health Fair or Poor - respondents who reported that their health, in general, was either fair or poor.

Physical Health Not Good - respondents that reported 14 or more days of poor physical health, which includes physical illness and injury, during the past 30 days.

Mental Health Not Good - respondents that reported 14 or more days of poor mental health, which includes stress, depression, and problems with emotions during the past 30 days.

### IMMUNIZATIONS

Had Flu Shot Last 12 Months - respondents aged 65 or older, the proportion who reported that they had a flue vaccine, either by injecting in the arm or spraying in the nose during the past year.

Had Pneumonia Vaccine Last 12 Months - respondents aged 65 or older, the proportion who reported that they ever had a pneumonia vaccine.

### OBESITY

Obese - Respondents whose body mass index (BMI) is greater or equal to 30.

Overweight - Respondents whose BMI is between 25 and 29.9.

## ORAL HEALTH

Had Permanent Teeth Removed - respondents who reported ever had permanent teeth removed.

Visited Dental Clinic - respondents that reported a visit to the dental clinic in last 12 months.

## PHYSICAL ACTIVITY

Inadequate physical activity - proportion who reported not participating in any leisure-time physical activity such as running, calisthenics, golf, gardening or walking during the past month.

## TOBACCO USE

Current Smokers - respondents that indicated that they are current smokers.

Former Smokers - respondents that indicated that they were former smokers.

## WOMEN'S HEALTH

Had Pap Test Past 3 Years - proportion of women who reported that they had PAP test in the last 3 years.

Women aged 40+ Had mammogram Last 2 Years - proportion of women aged 40 years or older who reported that they had mammogram test in the last 2 years.

Women aged 50+ Had mammogram Last 2 Years - proportion of women aged 50 years or older who reported that they had mammogram test in the last 2 years.



## HEALTH CARE ACCESS / UTILIZATION

**Summary & Conclusions:** In 2006, Louisiana residents were most likely to report having no health coverage if they were in one or more of the following groups: age group 18-34, African Americans, lower education and household income levels, and unemployed. Residents in these groups were also more likely to report not having anyone they thought of as a personal health care provider and more likely to report not being able to see a doctor when they need to because of the cost. In addition, males were much less likely to report having one health care provider than were females.

### Health care coverage among adults and limited health care access among adults overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristics+	No Personal Health Care Provider++			No Health Care Access Due to Cost^			No Health Care Coverage~		
	Sample Size*	%	95% CI	Sample Size*	%	95% CI	Sample Size*	%	95% CI
<b>Total</b>	<b>1252</b>	<b>23.2</b>	<b>(21.7-24.6)</b>	<b>1186</b>	<b>17.7</b>	<b>(16.5-18.9)</b>	<b>1271</b>	<b>26.5</b>	<b>(24.9-28.2)</b>
<b>Age</b>									
18-34	383	34.7	(31.3-38.1)	296	21.4	(18.7-24.2)	393	33.3	(30.0-36.7)
35-54	549	22.6	(20.6-24.6)	546	19.1	(17.3-20.8)	624	23.2	(21.3-25.1)
55-64	320	11.3	(9.9-12.6)	344	11.8	(10.5-13.2)	254	19.4	(16.9-21.9)
<b>Gender</b>									
Male	577	30.0	(27.5-32.6)	307	14.2	(12.3-16.1)	410	26.1	(23.4-28.8)
Female	675	16.9	(15.5-18.3)	879	20.9	(19.4-22.4)	861	26.9	(25.1-28.8)
<b>Race</b>									
White	730	18.6	(17.1-20.2)	678	13.6	(12.4-14.9)	677	19.8	(18.1-21.6)
Black	378	29.4	(26.4-32.5)	403	26.8	(23.9-29.7)	454	36.6	(33.3-40.0)
<b>Education</b>									
< High school	253	38.0	(33.2-42.9)	596	27.0	(23.0-30.9)	294	56.1	(50.5-61.7)
High school grad	439	25.7	(23.1-28.3)	277	22.3	(20.0-24.5)	521	32.1	(29.3-35.0)
Some college/grad	558	17.5	(15.9-19.2)	113	12.4	(11.1-13.7)	454	16.4	(14.6-18.1)
<b>HH Income</b>									
<\$25,000	474	31.6	(28.6-34.7)	241	33.3	(30.4-36.1)	646	51.4	(47.7-55.1)
\$25,000-\$49,999	299	25.0	(21.8-28.2)	466	18.1	(15.6-20.6)	288	26.6	(23.2-30.0)
\$50,000+	260	14.7	(12.8-16.5)	477	5.4	(4.2-6.5)	147	9.0	(7.3-10.7)
<b>Employment</b>									
Employed	633	24.2	(22.1-26.3)	480	14.8	(13.2-16.3)	584	21.5	(19.5-23.6)
Self-employed	265	15.2	(13.1-17.3)	245	12.4	(10.6-14.1)	201	27.5	(23.5-31.5)
Unemployed	265	32.1	(28.0-36.1)	284	27.1	(23.5-30.7)	355	38.9	(34.7-43.1)
Unable to work	82	18.5	(14.1-22.8)	171	33.0	(28.2-37.9)	121	29.0	(23.8-34.2)

\* Percentages are based on weighted data estimates. Un-weighted sample size (No personal health care provider) = 1252. Un-weighted sample size (No health care due to cost) = 1186. Un-weighted sample size (No health care coverage) = 1271.

+In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

++The proportion of adults aged 18-64 who reported that they did not have anyone that they thought of as their personal doctor or health care Provider.

^The proportion of adults aged 18-64 who reported that there was a time in the past 12 months they could not see a doctor when they needed to due to cost.

~The proportion of adults aged 18-64 who reported having no health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, or Medicaid.

Health care services can be expensive and most people can afford service only through having health care coverage (Centers for Disease Control and Prevention [CDC], 1998). Lack of healthcare coverage has been associated with deferred or delayed medical treatment, no preventative or primary care, and generally poor physical health status (CDC, 1998). According to Healthy People 2010, a strong predictor of quality health care is having health care coverage (2000).

Over 44 million people living in the United States are uninsured, and of those people, about 33% of persons under the age of 65 are uninsured (Healthy People 2010, 2000). The Healthy People 2010 health objective 1-1 is to increase the amount of people with health care coverage to 100% (Healthy People 2010, 2000).

In 2006, 26.5% [95% CI: 24.9-28.2] of Louisiana residents between the ages of 18-64 reported having no health care coverage, including health insurance, prepaid plans such as HMOs, government plans, or Medicare. This proportion is much higher than the national rate of 14.5% reporting no health care coverage. Louisiana residents between the ages of 18-34 had a significantly higher prevalence of being uninsured, 33.3% [95% CI: 30.0-36.7], compared to those 35 and older. African American residents were much more likely than White residents to report no health care coverage: 36.6% [95% CI: 33.3-40.0], compared to 19.8% [95% CI: 17.1-22.5] among Whites. As the education and income levels increased, the proportion of uninsured Louisiana residents decreased. In addition, 38.9% [95% CI: 34.7-43.1] of unemployed Louisiana residents had no health care coverage, which was significantly higher than the proportion in any other employment category.

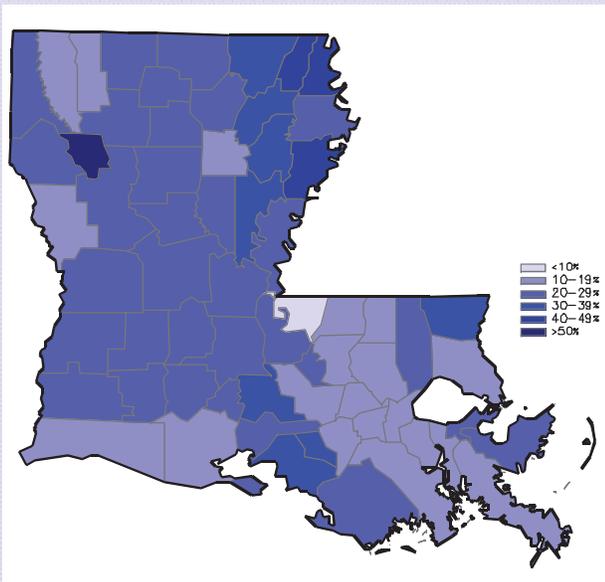
Another way to measure access to quality health care is to ask whether there is one person the respondent considers to be a personal health care provider. The proportion of Louisiana residents that reported that they did not have anyone that they thought of as their personal doctor or health care provider in 2006 was 23.2% [95% CI: 21.7-24.6]. Of those between the ages of 18-34, 34.7% [95% CI: 31.3-38.1] reported not having a single health care provider, which was significantly higher than all other ages. African American residents were more likely to report not having a single health care provider than were White residents: 29.4% [95% CI: 26.4-32.2] compared to 18.6% [95% CI: 17.1-20.2]. As education and income level increased, the absence of a personal health care provider increased. In addition, a higher proportion of unemployed Louisiana residents 32.1% [95% CI: 28.0-36.1] than residents in all other employment status groups.

In 2006, 17.7% [95% CI: 16.5-18.9] of Louisiana residents reported that there had been a time in the past 12 months when they could not see a doctor when needed because the cost was prohibitive. This situation was most frequently reported by those with household income below \$25,000, those who were unemployed, and those who were unable to work.

Over the last ten years, the proportion of Louisiana residents without health care coverage has remained steadily higher than the US proportion: both have increased slightly over the decade.



**Percentage of Louisiana Residents without Health Care 2004-2006 by Parish\*\*and Region+**



Parish	N	%	95% CI
Red River*	46	51.8	[32.2 - 71.3]
Tensas*	41	43.5	[15.4 - 71.5]
E Carroll*	34	42.7	[15.1 - 70.4]
W Carroll	69	41.4	[25.9 - 56.9]
Richland	109	37.8	[24.5 - 51]
Franklin	137	37.1	[24.5 - 48]
Catahoula	83	34	[19 - 49]
Washington	249	33.3	[24.3 - 42.4]
St Mary	274	32.6	[24.5 - 40.5]
Iberville	117	32.3	[21.4 - 43.3]

\* Denotes categories less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*The 2004, 2005, and 2006 BRFSS data files were combined to increase the sample size by parish.

Region	N	%	95% CI
1	1016	20.9	[17.7 - 24]
2	1001	18.6	[15.5 - 21.7]
3	975	23.2	[20 - 26.5]
4	1001	23	[19.4 - 26.7]
5	971	26.3	[22.9 - 29.8]
6	1003	27.5	[23.9 - 31]
7	1014	23	[19.8 - 26.1]
8	1014	28.5	[24.8 - 32.1]
9	1034	21.8	[18.8 - 24.7]

+Respondents without health care by region (LA 2004 BRFSS)

## QUALITY OF LIFE

**Summary & Conclusions:** In 2006, Louisiana residents were more likely to report fair or poor health if they were 65 or older, female, African American, reported lower income, achieved a lower level of education, or were unable to work. Rates for poor mental and physical health were highest among Louisiana residents with low income and education levels and residents who were unable to work.

### General health status , physical and mental health among adults among adults, overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristics+	General Health Fair or Poor <sup>^</sup>			Physical Health Not Good <sup>++</sup>			Mental Health Not Good <sup>**</sup>		
	Sample Size*	%	95% CI	Sample Size	%	95% CI	Sample Size	%	95% CI
<b>Total</b>	1481	18.4	(17.3-19.5)	871	10.8	(9.9-11.7)	735	10.4	(9.4-11.3)
<b>Age</b>									
18-34	107	7.9	(6.1-9.8)	58	4.4	(3.0-5.9)	133	10.4	(8.3-12.6)
35-54	475	17.1	(15.4-18.9)	295	10.6	(9.2-12.0)	334	11.1	(9.7-12.6)
55+	899	31.6	(29.7-33.6)	518	18.2	(16.6-19.9)	268	9.3	(8.1-10.5)
<b>Gender</b>									
Male	466	16.9	(15.2-18.7)	239	8.6	(7.3-10.0)	197	8.8	(7.3-10.4)
Female	1015	19.8	(18.5-21.1)	632	12.7	(11.6-13.9)	538	11.8	(10.6-12.9)
<b>Race</b>									
White	919	16.0	(14.9-17.3)	587	10.2	(9.2-11.1)	502	10.0	(9.0-11.1)
Black	440	24.6	(22.0-27.3)	211	12.4	(10.3-14.5)	177	11.7	(9.5-13.9)
<b>Education</b>	61								
< High school	388	34.3	(30.3-38.2)	212	20.1	(16.7-23.4)	154	16.0	(12.9-19.2)
High school grad	585	22.1	(20.0-24.2)	311	11.4	(9.8-13.1)	239	11.4	(9.5-13.2)
Some college/grad	505	11.9	(10.7-13.1)	346	8.0	(7.0-9.0)	342	8.3	(7.2-9.4)
<b>HH Income</b>									
<\$25,000	725	31.7	(29.1-34.3)	412	18.6	(16.4-20.8)	295	15.0	(12.9-17.1)
\$25,000-\$49,999	293	17.0	(14.7-19.4)	174	9.5	(7.7-11.4)	168	10.3	(8.2-12.4)
\$50,000+	157	6.8	(5.6-8.0)	98	4.0	(3.1-5.0)	146	6.6	(5.3-7.9)
<b>Employment</b>									
Employed	353	9.9	(8.6-11.2)	167	4.8	(3.8-5.8)	253	7.2	(6.0-8.5)
Self-employed	561	27.9	(25.5-30.3)	309	14.9	(13.0-16.7)	160	8.9	(7.1-10.6)
Unemployed	211	15.1	(12.6-17.7)	131	9.6	(7.5-11.7)	155	13.4	(10.8-16.0)
Unable to work	351	61.6	(56.5-66.7)	262	49.0	(43.7-54.3)	166	32.6	(27.5-37.6)

\* Percentages are based on weighted data estimates. Un-weighted sample size (general health) = 1481. Un-weighted sample size (physical health) = 871. Un-weighted sample size (mental health) = 735.

+In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

<sup>^</sup>The proportion of respondents who reported that their health, in general, was either fair or poor.

<sup>++</sup> The proportion who reported 14 or more days of poor physical health, which includes physical illness and injury, during the past 30 days.

<sup>\*\*</sup> The proportion who reported 14 or more days of poor mental health, which includes stress, depression, and problems with emotions during the past 30 days.

The general health of a population can be assessed by examining residents' perceived health (Healthy People 2010, 2000). General health status is also measured by such indicators as vital statistics, quality of life, risks, self-report questionnaires and various other factors (Healthy People 2010, 2000).

In 2006, 18.4% [95% CI: 17.3-19.5] of Louisiana residents reported that their health, in general, was either fair or poor. More than a third (36.1% [95% CI: 33.3-38.9]) of adults 65 and older reported that their health was either fair or poor, which was the highest prevalence out of all other age groups. In addition, females were more likely to report fair or poor health status than males: 19.8% [95% CI: 18.5-21.1] for women, versus 16.9% [95% CI: 15.2-18.7] for men.

## QUALITY OF LIFE

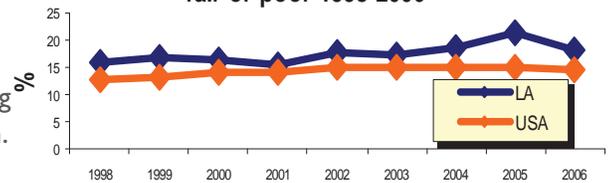
African American Louisiana residents were also more likely to report fair or poor health than their White counterparts: 24.6% [95% CI: 22.0-27.3] for African American residents, 16.0% [95% CI: 14.9-17.3] for White residents. As education level and household income increased, the prevalence fair or poor general health status decreased. Louisiana residents who reported being unable to work had the highest prevalence of fair or poor health status at 61.6% [95% CI: 56.5-66.7].

When asked how many days of poor physical health or poor mental health they had experienced over the last 30 days, 10.8% [95% CI: 9.9-11.7] answered that they had 14 or more days of poor physical health. Similarly, 10.4% [95% CI: 9.4-11.3] reported having at least 14 days of poor mental health during that time period.

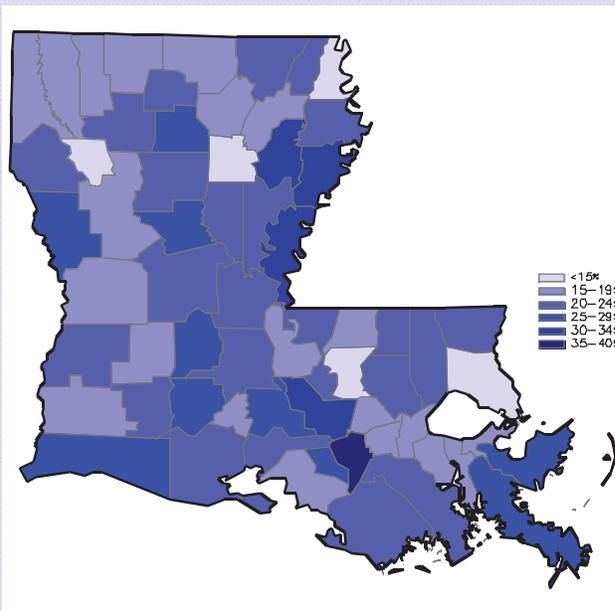
High numbers of poor physical health days were more prevalent among older residents, females, those with lower levels of household income and education, those who were self-employed, and especially those who reported being unable to work. High numbers of poor mental health days were more likely to be reported by females, those with lower levels of household income and education and those who were unemployed or unable to work.

Over the last decade, the proportion of Louisiana residents reporting fair or poor health has remained higher than the national proportion.

US & LA residents that reported their health fair or poor 1998-2006



Percentage of Louisiana Residents that reported having Poor or Fair Health by Parish 2004-2006\*\*and Region+



Parish	N	%	95% CI
Assumption	121	35.3	[21.5 - 47.5]
Concordia	118	34.7	[22.2 - 47.3]
Iberville	117	32.3	[21.4 - 43.3]
Franklin	137	31.9	[22.3 - 41.3]
Tensas*	41	30.6	[9 - 52.2]
Evangeline	140	29.5	[20 - 39]
Sabine	125	28.2	[18.2 - 38.2]
Plaquemines	82	27.5	[16.3 - 38.7]
St Bernard	111	27.5	[15.7 - 39.3]
Jackson	95	27.2	[12.3 - 42.2]

\* Denotes categories less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*The 2004, 2005, and 2006 BRFSS data files were combined to increase the sample size by parish.

Region	N	%	95% CI
1	960	14.3	[11.7 - 16.9]
2	950	13.4	[10.9 - 16]
3	890	14.7	[12.1 - 17.4]
4	909	11.5	[9.1 - 13.9]
5	906	14.7	[12.1 - 17.3]
6	914	12.9	[10.6 - 15.2]
7	948	15	[12.4 - 17.5]
8	933	13.6	[11.1 - 16.1]
9	959	12.7	[10.4 - 15]

**Summary & Conclusions:** Prevalence rates of Diabetes were highest among Louisiana residents with lower incomes, lower education levels, retired or unable to work. The prevalence for diabetes among adults increases significantly with age. It is recommended that adults aged 40 years and above have their blood-glucose levels checked regularly. African Americans have the highest prevalence rates for diabetes diagnosis when compared to other races. Prevention efforts should note that hypertension, obesity, physical activity and diet are risk factors for diabetes. Programs should increase access to diabetes education services.

## Prevalence of diabetes among adults , overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2006\*\*

Category+	Sample Size*	%	(95% CI)
<b>Total</b>	<b>802</b>	<b>9.2</b>	<b>(8.4 - 9.9)</b>
<b>Age Group</b>			
18-44	87	2.9	(2.1 - 3.7)
45-64	417	14.0	(12.5 - 15.5)
65 and above	298	19.1	(16.9 - 21.3)
<b>Sex</b>			
Men	276	8.6	(7.5 - 9.8)
Female	526	9.6	(8.6 - 10.5)
<b>Race</b>			
White	511	8.3	(7.4 - 9.1)
Black	244	11.9	(10.1 - 13.7)
<b>Education</b>			
Less than HS Grad	210	16.9	(14.2 - 19.7)
HS Grad	275	9.7	(8.3 - 11.0)
Some College/Grad	316	6.7	(5.8 - 7.5)
<b>HH Income</b>			
<25,000	355	15.1	(13.2 - 16.9)
25,000-34,999	93	10.0	(7.7 - 12.3)
35,000+	208	5.7	(4.8 - 6.5)
<b>Employment</b>			
Employed	246	5.1	(4.4 - 5.9)
Unemployed	29	6.5	(3.3 - 9.6)
Homemaker/Student	69	6.6	(4.7 - 8.4)
Retired	288	18.9	(16.6 - 21.1)
Unable to Work	168	29.5	(24.9 - 34.1)
<b>Insulin</b>			
Non - users	574	71.8	(68.1 - 75.5)
Users	227	28.1	(24.4 - 31.8)

\* Percentages are based on weighted data estimates. Un-weighted sample size = 802  
 + In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

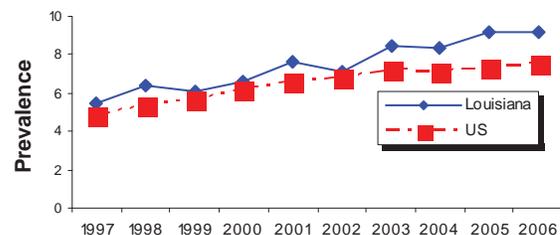
\*\*The respondents who reported that they were told by a health professional that they had diabetes. Women who had diabetes only during pregnancy and adults who were diagnosed with pre-diabetes were excluded.

Based on the results of the 2006 BRFSS, there were significant differences between prevalence rates for the age, race, income, and education categories. Louisiana residents with low socio-economic status and low educational levels had higher prevalence rates for diabetes. Respondents that indicated that they were unable to work had the highest rate in the employment category. There was no significant difference between the gender category for diagnosis for diabetes. [p=.2279].

Diabetes mellitus is a chronic disease that is associated with high blood glucose levels. Diabetes has a tremendous impact upon health cost as well as individuals diagnosed with the disease. In the United States, diabetes is the leading cause of non-traumatic amputations, blindness among working aged adults, and end-stage renal disease. Significantly, the Healthy People 2010 initiative states that economical prevention programs are not routinely used in clinical management of individuals with diabetes and this results in unnecessary illnesses, disability, death and expense.

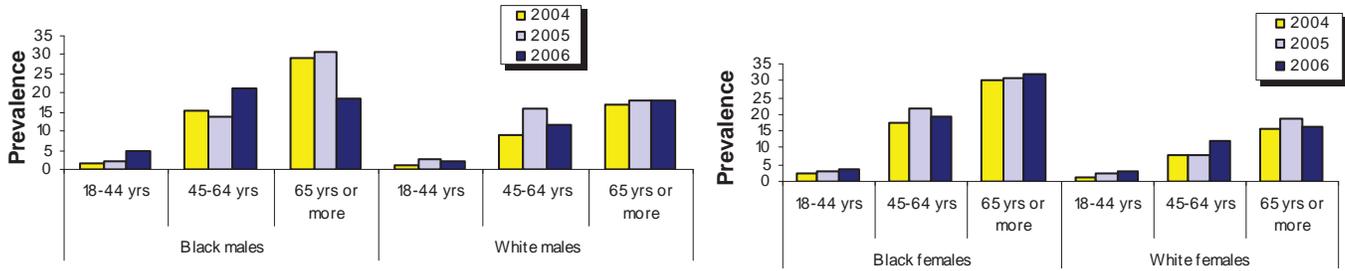
Diabetes is the fifth leading cause of death in Louisiana (LA Vital Statistics, 2003). The age adjusted death rate for Louisiana (40.6/100,000 people) is almost twice the national age adjusted death rate (25.6/100,000 people) (LA Vital Statistics, 2003). The prevalence of diabetes for Louisiana residents (9.2) was higher than the U.S. rate (7.5) for diabetes for the year 2006.

Prevalence for Diabetes Louisiana and US 1997-2006



Louisiana residents who had high blood pressure were almost seven times more likely to be diabetic compared to residents who did not have high blood pressure [OR=6.8; 95%CI: 5.26-8.9] (LA 2005 BRFSS). Louisiana residents in 2006 that were considered obese/overweight were almost four times likely to be diabetic when compared to residents that were not obese/overweight [OR=3.7; 95% CI: 3.08-4.68].

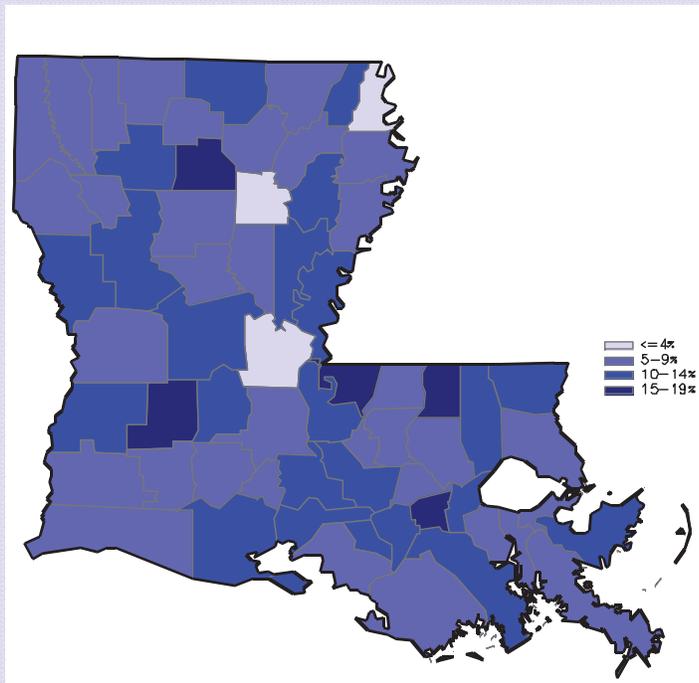
**Age-specific Prevalence Rates for Diabetes for Louisiana Residents (2004-2006)**



In Louisiana, individuals diagnosed with diabetes increased significantly as age progressed, particularly at 45 years of age and above. When observing the categories for race/age/sex in 2006, the prevalence of diabetes was highest for African-American males and females aged 45 years and above. African American females aged 65 years and above had the highest prevalence rate 32% [95% CI: 24.3-39.5] for diagnosis of diabetes in 2006.

In 2006, 56% [95% CI: 52.2-60.1] Louisiana residents who indicated that they had been diagnosed with diabetes had taken a course on how to manage diabetes. The majority of Louisiana residents indicated that he or she was first diagnosed with diabetes between the ages of 40 to 49 years of age 25.7% [95% CI: 22-29.4]. In 2006, the majority of Louisiana residents were taking pills (72%) to control their blood sugar levels compared to those that used insulin (28%).

**Prevalence of Diabetes for Louisiana 2004-2006 by Parish\*\* and Region+**



Parish	N	%	95% CI
W Feliciana*	38	19.5	[1.5 - 37.5]
Jackson	95	18.2	[3.2 - 33.3]
Allen	140	17.5	[6.5 - 28.5]
St James	105	17.5	[7.2 - 27.7]
St Helena*	42	15.2	[4.6 - 25.9]
Sabine	125	14.7	[6.7 - 22.7]
Bienville	74	14.4	[5.8 - 22.9]
Washington	249	14.3	[8 - 20.6]
Assumption	121	14	[6.6 - 21.5]
Iberia	275	14	[8.5 - 19.6]

\* Denotes categories less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*The 2004, 2005, and 2006 BRFSS data files were combined to increase the sample size by parish.

Region	N	%	95% CI
1	1015	9.7	[7.8 - 11.7]
2	1002	6.4	[4.9 - 8]
3	979	10.2	[8 - 12.5]
4	1005	7.4	[5.6 - 9.2]
5	975	7.3	[5.5 - 9]
6	1005	8.6	[6.6 - 10.6]
7	1017	8.1	[6.3 - 9.9]
8	1015	7.9	[6.1 - 9.7]
9	1033	7.3	[5.6 - 9]

+LA Residents that have been diagnosed with diabetes by region (LA 2004 BRFSS)

**Summary & Conclusions:** The prevalence rates for Coronary heart disease (CHD) was highest for Louisiana residents with lower incomes, education levels and the inability to work. Heart attack and stroke rates were also highest for residents with lower incomes, education levels, retired and the inability to work. In 2004, the majority of Louisiana residents indicated that he or she had their first stroke or heart attack between the ages of 45 and 64 years of age. It should be noted that females between the ages of 18 and 44 years are more likely to suffer a stroke when compared to males within the same age category. Intervention groups should focus some of their efforts on increasing the proportion of Louisiana residents that can recognize all of the early signs or symptoms for stroke and heart attack.

## Prevalence of residents that indicated that they have had either a heart attack, stroke or diagnosed with angina / heart disease, overall and select categories. Behavioral Risk Factor Surveillance System 2006.

Characteristic+	Sample size*	%	95% CI	Sample size*	%	95% CI	Sample size*	%	95% CI
<b>Total</b>	361	4.1	[3.6 - 4.6]	287	3.3	[2.8 - 3.8]	432	5	[4.5 - 5.6]
<b>Age</b>									
18-44	18	.67	[.3 - .1]	21	1	[.49 - 1.5]	33	1.1	[.67 - 1.6]
45-64	157	5.1	[4.2 - 6]	127	4.3	[3.4 - 5.2]	204	6.9	[5.8 - 8]
65+	186	13	[11 - 15]	139	8.8	[7.2 - 10.4]	195	13.7	[11.7 - 15.8]
<b>Gender</b>									
Male	164	4.9	[4.1 - 5.8]	95	3	[2.2 - 3.7]	165	5.4	[4.5 - 6.3]
Female	197	3.3	[2.8 - 3.8]	192	3.6	[3 - 4.2]	267	4.7	[4 - 5.3]
<b>Race</b>									
White	258	4.4	[3.8 - 5]	182	2.8	[2.3 - 3.3]	323	5.5	[4.8 - 6.2]
Black	77	3.6	[2.6 - 4.5]	84	4.6	[3.4 - 5.8]	76	3.8	[2.7 - 4.9]
<b>Education</b>									
Less than HS Grad	78	6.1	[4.5 - 7.7]	75	6.1	[4.4 - 7.9]	87	6.8	[5.1 - 8.4]
High school grad/GED	130	4.1	[3.3 - 4.9]	91	3.2	[2.4 - 4]	147	5.7	[4.6 - 6.7]
Some college/College Grad	152	3.5	[2.9 - 4.2]	120	2.5	[2 - 3.1]	222	4.1	[3.4 - 4.8]
<b>HH Income</b>									
<25,000	167	6.8	[5.6 - 7.9]	144	6.6	[5.2 - 7.9]	190	7.9	[6.5 - 9.2]
25,000-34,999	31	3.3	[1.9 - 4.6]	36	3.9	[2.3 - 5.5]	59	4.7	[3 - 6.5]
35,000+	86	2.4	[1.8 - 3]	46	1.2	[.84 - 1.6]	127	3.4	[2.8 - 4.1]
<b>Employment</b>									
Employed	79	1.7	[1.3 - 2.2]	41	0.9	[.6 - 1.2]	115	2.5	[1.9 - 3.1]
Unemployed Homemaker/Student	15	2.6	[1.1 - 4.1]	13	3.6	[.62 - 6.7]	15	2.6	[1.1 - 4.1]
Retired	13	1.2	[.48 - 2]	14	1.2	[.52 - 1.9]	23	2.5	[1.2 - 3.7]
Unable to Work	169	12.5	[10.5 - 14.5]	137	8.7	[7.1 - 10.3]	182	13.2	[11.2 - 15.2]
	83	12.2	[9.3 - 15.1]	81	15.9	[12 - 19.8]	95	15.7	[12.3 - 19.2]

\* Percentages are based on weighted data estimates. Un-weighted sample size (heart attack) = 361. Un-weighted sample size (stroke) = 287. Un-weighted sample size (heart disease) = 432.

+In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

++The proportion of respondents that indicated that they were told by a healthcare professional that they had a heart attack or myocardial infarction.

^The proportion of respondents that indicated that they were told by a healthcare professional that they had a stroke.

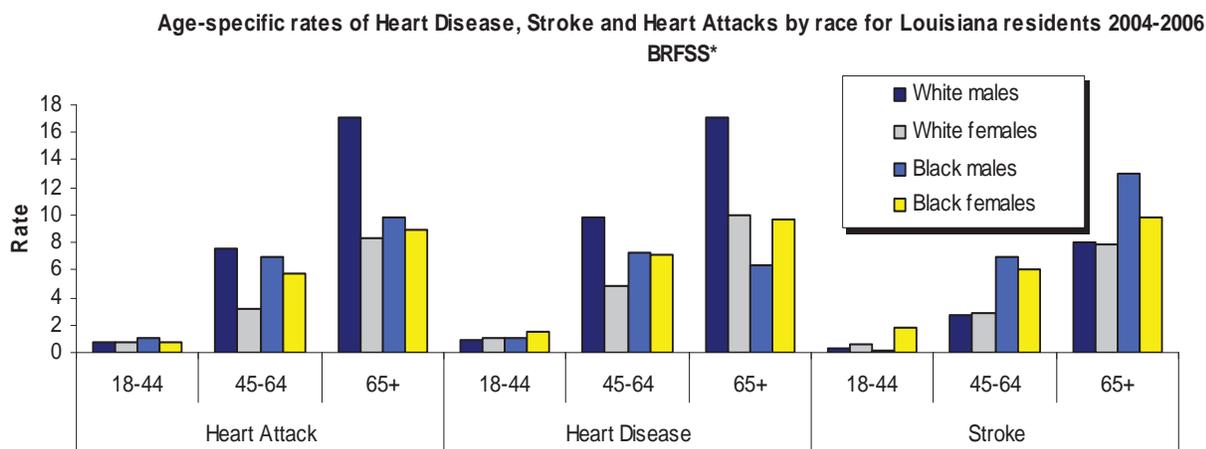
~The proportion of respondents that indicated that they were told by a health care professional that they had angina or coronary heart disease.

In the United States, heart disease is the number one cause of death for residents. Stroke is the third leading cause of death for residents (National Center for Health Statistics 2004). Coronary heart disease (CHD) accounts for the largest proportion of heart disease. Around 12 million residents have CHD in the United States. The national death rates for CHD show that males have higher mortality rates when compared to females and Blacks have higher CHD mortality rates when compared to Whites.

In Louisiana, heart disease and stroke were the number one and three causes of death respectively for residents which accounted for 32% of all deaths in Louisiana in 2004 (LA Vital Statistics 2004). Louisiana also ranks first in mortality rates for heart disease and third for stroke when compared to other states (NCHS, National Vital Statistics 2003). In 2006, 4.1% of the respondents indicated that they have had a heart attack, 3.3% suffered a stroke and 5% had been diagnosed with heart disease.

## CARDIOVASCULAR HEALTH

In 2006, there were significant associations with the age categories and the outcomes among Louisiana residents. Residents aged 65 years or more were more likely to have CHD, suffered a stroke or have had a heart attack when compared to residents aged less than 65 years. When observing the gender category for Louisiana residents in 2006, there was not a significant difference between males and females with the outcome of CHD [ $p=.2219$ ]. Males have higher rates of heart attacks when compared to females. When observing the 18-44 years of age category alone, females were three times more likely to have a stroke compared to males in the same age category [OR=3.6; 95%CI: 3.5-3.7] (2004-2006 LA BRFSS\*).



\*The results from the 2004, 2005, and 2006 BRFSS were combined to form one dataset

From the 2004-2006 time period, White males aged 65 years and above had the highest proportion of respondents that had been told at some point in their life by a health professional that they had a heart attack 17.1% [95% CI: 14.2-20.1] and the highest prevalence for CHD 17.2% [95% CI: 14-20.2] when compared to other groups. Black males aged 65 years and above had the highest proportion among respondents that had been told at some point in their life by a health professional that they had a stroke 13% [95% CI: 7.1-18.8]. African American males aged 65 years and above had the second highest rate for heart attack 10% [95% CI: 4.9-14.9]. White females aged 65 years and above had the second highest rate of CHD 10% [95% CI: 8.4-11.5] and African American females aged 65 years and above had the second highest for stroke 9.8% [95% CI: 5.9-13.8] when compared to other groups.

Respondents for the 2006 survey that did not have an high school diploma/GED had the highest proportions for stroke, CHD, and heart attacks compared to other education levels. Respondents with a household income less than 25,000 per year also had the highest rates for stroke, CHD, and heart attacks compared to households with higher income levels. When observing the employment category for 2006, respondents that indicated that they were retired or unable to work had higher prevalence rates for stroke, CHD, and heart attacks when compared to other categories.

In 2004, the majority of Louisiana respondents that reported having a stroke indicated that they were 45 to 64 years of age when they had their first stroke 50.1% [95% CI: 41.7-58.4] or heart attack 49.7% [95% CI: 43.1-56.3]. The respondents also indicated that 30.8% [95% CI: 25.9-35.6] required outpatient rehabilitation from either a stroke or heart attack. This estimates that 53,938 Louisiana residents in 2004 required outpatient rehabilitation due to a stroke or heart attack at some point within their life. (LA BRFSS 2004).

One of the objectives of the Healthy People 2010 initiative is to increase the proportion of adults that can recognize the early symptoms and signs of a heart attack and stroke. The 2005 BRFSS asked a series of questions related to the recognition of heart attack and stroke symptoms. For heart attack symptoms, 13% of the Louisiana residents indicated that they recognized all six symptoms. The majority of the respondents recognized four (25%) or five (25%) symptoms out of six for a heart attack. There were 7.7% of the respondents that did not recognize any of the symptoms for heart attack. For stroke symptoms, 21% of the respondents were aware of all six of the early signs of a stroke. The majority of the respondents recognized five (32.2%) out of the six symptoms. There were 6.7% of the respondents that did not recognize any of the six warnings for having a stroke (LA BRFSS 2005).



**Summary & Conclusions:** The prevalence rates for asthma were highest for residents with lower incomes, education levels and respondents that were unable to work. In 2004, DHH Region VI (Central Louisiana) had the highest prevalence rate for residents that were diagnosed with asthma by a health professional when compared with other regions within Louisiana.

**Prevalence of Asthma, overall / select categories.  
Behavioral Risk Factor Surveillance System, Louisiana 2006**

Characteristic+	Lifetime Asthma++			Current Asthma^		
	Sample size*	%	95% CI	Sample size*	%	95% CI
<b>Total</b>	784	10.7	[9.9 - 11.7]	465	5.8	[5.2 - 6.5]
<b>Age</b>						
18-24	65	16.3	[12.2 - 20.5]	34	7.5	[4.7 - 10.3]
25-34	105	10.4	[8.2 - 12.6]	59	5.8	[4.1 - 7.4]
35-44	118	8.3	[6.6 - 10]	69	4.9	[3.5 - 6.2]
45-54	177	9.9	[8.3 - 11.5]	95	5	[3.8 - 6.1]
55-64	159	11.2	[9.2 - 13.2]	113	7.5	[5.9 - 9.1]
65-74	102	10.1	[8.1 - 12.2]	62	5.9	[4.3 - 7.5]
75+	58	8.5	[6.1 - 10.8]	33	4.5	[2.8 - 6.2]
<b>Gender</b>						
Male	200	8.8	[7.4 - 10.3]	85	3.4	[2.6 - 4.3]
Female	584	12.5	[11.3 - 13.7]	380	8.1	[7.1 - 9]
<b>Race</b>						
White	561	10.9	[9.8 - 12]	334	6.1	[5.2 - 6.9]
Black	165	10.6	[8.7 - 12.5]	95	5.8	[4.4 - 7.2]
<b>Education</b>						
Less than HS Grad	139	12.6	[10 - 15.2]	96	7.9	[5.9 - 9.9]
High school grad/ GED	248	10.4	[8.8 - 12.1]	147	5.4	[4.4 - 6.5]
Some college/Grad	397	10.4	[9.2 - 11.7]	222	4.4	[4.6 - 6.5]
<b>HH Income</b>						
<25,000	276	13.5	[11.5 - 15.5]	180	8.4	[6.8 - 9.9]
25,000-34,999	98	11.3	[8.6 - 14]	59	5.4	[3.8 - 7]
35,000+	274	9.1	[7.8 - 10.4]	140	4.4	[3.5 - 5.3]
<b>Employment</b>						
Employed	366	9.1	[8 - 10.2]	188	4.4	[3.6 - 5.1]
Unemployed	41	13.6	[8.5 - 18.7]	26	6.7	[3.5 - 9.9]
Homemaker/ Student	103	15	[11.4 - 18.5]	63	8.6	[6 - 11.2]
Retired	166	9.9	[8.3 - 11.5]	102	5.9	[4.6 - 7.1]
Unable to Work	105	16.6	[12.9 - 20.3]	84	13	[9.7 - 16.3]

\* Percentages are based on weighted data estimates. Un-weighted sample size (lifetime)= 784. Un-weighted sample size (current) =465

+ In this analysis, data for each category are included only for persons for whom the data were available; excluded data were either unknown or refused.

++ The proportion of respondents that indicated that they were diagnosed with asthma by a health care professional at some point in their life.

^ The proportion of respondents that indicated that he or she currently has asthma..

Asthma is a chronic inflammatory disorder of the lungs. Asthma is a disease of the lungs, specifically of the airways, which become narrowed, inflamed, and choked with mucus. These airway changes cause the breathing problems that occur in asthma. Asthma attacks may be triggered by tobacco smoke, inhaled allergens, medications, food and food additives, exercise, respiratory viral infections, weather (i.e. cold air), strong emotions, some alcoholic beverages, and irritants within the environment.

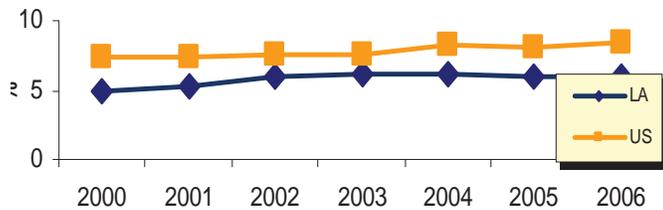
Asthma is one of the leading chronic conditions that causes restricted activity and the second highest chronic illness that effects children. Nationally, asthma related incidents account for 10.1 million missed days of school, and is the third-ranking cause of hospitalization among those younger than 15 years of age. Within the US population, the impacts of asthma for economic, health and social burdens vary. Medical costs for hospitalization, ED visits, and outpatient care for asthma related incidents have a tremendous impact on the economy.

In 2006, the estimated proportion of Louisiana residents that were told by a health care professional that he or she had asthma was 10.7% [95% CI: 9.9-11.7]. The estimated proportion of Louisiana residents that indicated that he or she currently has asthma was 5.8% [95% CI: 5.2-6.5] of population.

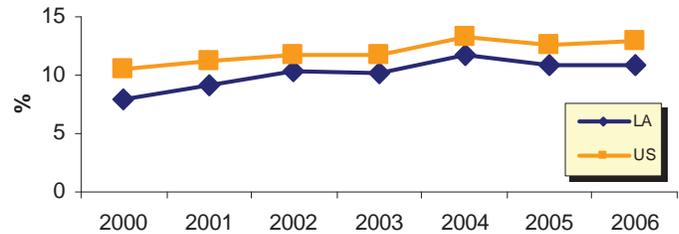
Age categories for persons 18 years or older had little effect as to whether a resident had been diagnosed with asthma throughout their life or currently had asthma in 2006.

Gender had a significant effect on asthma rates. Females had higher prevalence rates for diagnosis for asthma and current asthma. Rates for residents that reported current asthma decreased as education levels increased. Households with low incomes (<25,000) had the highest prevalence rates for current asthma and lifetime asthma. Race had no significant effect with current asthma [p=.4012] or residents that had been diagnosed with asthma throughout life in Louisiana [p=.1279]. However, national mortality surveillance has reported that African Americans and Hispanics are two to six times more likely to die from asthma when compared to Whites.

**Prevalence of people that currently have Asthma US & LA 2000-2006 BRFSS**



**Prevalence of people that have been diagnosed with Asthma at some point in life LA & US 2000-2006 BRFSS**

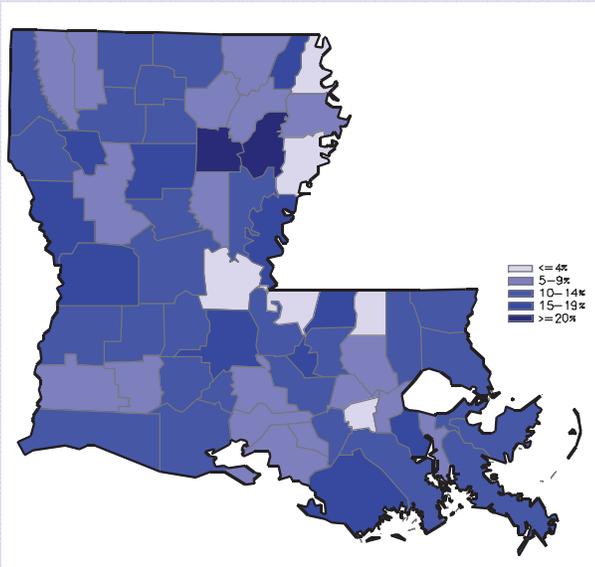


When observing the trend for the period of 2000-2006, Louisiana residents that indicated that he or she had been diagnosed with asthma increased by 2.8%. There was a marginal increase (.9%) of Louisiana residents that currently had asthma from years 2000-2006. The rates for Louisiana residents that reported being diagnosed with asthma at some point their life or currently having asthma was less than national rates from 2000-2006.

An estimated 48.2% [95% CI: 42.4-54.1] of Louisiana residents that indicated that he or she currently has asthma received a influenza vaccination within a year (LA BRFSS 2006).

In 2006, an estimated 115,979 households in Louisiana had a child with asthma.

**Prevalence of LA residents that have been diagnosed with Asthma by Parish 2004-2006\*\*and Region+**



Parish	N	%	95% CI
Caldwell	55	29	[.4 - 57.5]
Franklin	137	21	[9.9 - 32.3]
Concordia	118	18.3	[7.6 - 29]
Red River*	46	16.6	[6 - 27.2]
Vernon	220	16.3	[8.4 - 24.2]
W Baton Rouge	83	15.9	[5.4 - 26.4]
W Carroll	69	15.7	[3.6- 27.7]
St Charles	191	15.5	[6.1 - 24.8]
Sabine	125	15.3	[6.1 - 24.4]
St Landry	369	15.3	[10.3 - 20.3]

\*Denotes categories less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*The 2004, 2005, and 2006 BRFSS data files were combined to increase the sample size by parish

Region	N	%	95% CI
1	1017	12.8	[10.1- 15.4]
2	1000	12.7	[10.2 - 15.2]
3	981	11.6	[9.3 - 14]
4	1004	10.4	[8.1 - 12.6]
5	975	11.1	[8.8 - 13.4]
6	1006	13.9	[11.2 - 16.6]
7	1019	10	[7.8 - 12.1]
8	1017	11.7	[9.3 - 14.1]
9	1035	10.6	[8.5 - 12.8]

In 2004, the top three regions in Louisiana for the highest prevalence of asthma diagnosis were region six 13.9% [95% CI: 11.2-16.6], region one 12.8% [95% CI: 10.1-15.4] and region two 12.7% [95% CI:10.2-15.2] (LA 2004 BRFSS).

+LA Residents that have been diagnosed with asthma by region (LA 2004 BRFSS)

**Summary & Conclusions:** Nearly one out of every four residents in Louisiana are smokers. Rates for smoking have not changed significantly within the past five years. Smoking rates are higher among households with lower incomes and residents without a high school diploma or GED. Prevention programs should note that smoking is more likely to begin between the ages of 12-17 years. It should also be noted that younger age groups are more likely to attempt to quit smoking when compared to older age groups.

## Prevalence of current and former smokers, overall and select categories. Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristic+	Current Smokers++			Former Smokers~		
	Sample size*	%	95% CI	Sample size*	%	95% CI
<b>Total</b>	1500	23.4	[22 - 24.7]	1609	20.1	[19 - 21.2]
<b>Age</b>						
18-24	104	28.6	[23.3 - 33.9]	35	8	[4.9 - 11]
25-34	246	28.4	[24.7 - 32.1]	112	11.4	[9.1 - 13.8]
35-44	311	25.4	[22.5 - 28.4]	168	13.6	[11.4 - 15.8]
45-54	434	28.1	[25.4 - 30.8]	325	20.1	[17.7 - 22.4]
55-64	256	18.2	[15.8 - 20.5]	428	33.9	[31 - 36.9]
65-74	112	13	[10.4 - 15.6]	325	38.5	[34.9 - 42.1]
75+	37	5.3	[3.4 - 7.2]	216	34.6	[30.3 - 38.8]
<b>Gender</b>						
Male	577	26.6	[24.3 - 29]	720	24.4	[22.4 - 26.3]
Female	923	20.4	[19 - 21.8]	889	16.2	[15 - 17.4]
<b>Race</b>						
White	1103	23.4	[21.9 - 25]	1242	22.9	[21.5 - 24.3]
Black	300	23.2	[20.3 - 26.2]	259	13.8	[11.9 - 15.8]
<b>Education</b>						
Less than HS Grad	273	32.1	[27.9 - 36.4]	244	21.7	[27.9 - 36.4]
High school grad/GED	582	28.3	[25.8 - 30.9]	504	19.4	[17.5 - 21.3]
Some college/ Grad	643	17.9	[16.3 - 19.6]	860	20.1	[18.7 - 21.6]
<b>HH Income</b>						
<25,000	505	28.4	[25.4 - 31.3]	434	19.9	[17.6 - 22.1]
25,000-34,999	199	27.4	[23.4 - 31.5]	199	17.9	[14.8 - 21]
35,000+	576	20.1	[18.3 - 21.9]	576	20.7	[19 - 22.3]
<b>Employment</b>						
Employed	878	24.3	[22.5 - 26.1]	737	17.3	[15.8 - 18.7]
Unemployed Homemaker/ Student	92	33.6	[25.9 - 41.3]	61	15.2	[10.3 - 20.1]
Retired	103	23.2	[19.3 - 27]	136	12.4	[34.6 - 40.2]
Unable to Work	166	10.7	[8.9 - 12.5]	531	37.4	[34.6 - 40.2]
	105	35.5	[30.5 - 40.5]	138	24	[19.8 - 28.1]

\* Percentages are based on weighted data estimates. Un-weighted sample size for current smokers = 1500. Un-weighted sample size for former smokers = 1609.

+ In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

++ The proportion of respondents that indicated that they were current smokers .  
~The proportion of respondents that indicated that they were former smokers.

Cigarette smoking causes heart disease, several kinds of cancer, and respiratory diseases among US residents. Tobacco alone is responsible for more than 430,000 deaths per year among adults living in the United States. Medical costs related to smoking exceed 75.5 billion dollars per year and costs related to smoking during pregnancy are estimated to be 1.4 billion dollars per year. Each year, exposure to secondhand smoke causes the deaths of an estimated 3,000 nonsmokers and causes lower respiratory tract infections for 150,000 to 300,000 infants in the United States.

In 2006, an estimated 787,986 Louisiana residents were current smokers. Men were more likely to smoke when compared to women. In 2006, there were similar rates for current smokers among race groups. Louisiana residents that did not receive a high school diploma had the highest prevalence of smoking when compared to other levels of education. Residents with reported household incomes less than \$25,000 per year had the highest prevalence of smoking when compared to other levels of household income. Louisiana residents that indicated that they were unable to work or unemployed had the higher rates of smoking compared to other categories related to employment.

There were more males in Louisiana that indicated that they were former smokers compared to females in 2006. Whites had the highest proportion of persons who claimed to be former smokers (23%) when compared to African Americans (13.8%).

There was no significant difference between the prevalence of former smokers with different levels of household income and education. Age had an impact for former smokers in which proportions of residents that claimed that they were former smokers increased with age.

Among the respondents of the 2006 BRFSS, those that indicated that they were disabled due to emotional, physical or mental problems had a higher prevalence 27.5% [95% CI: 24.7-30.3] for smoking compared to those who were not disabled 22.2% [95% CI: 20.8-23.9].

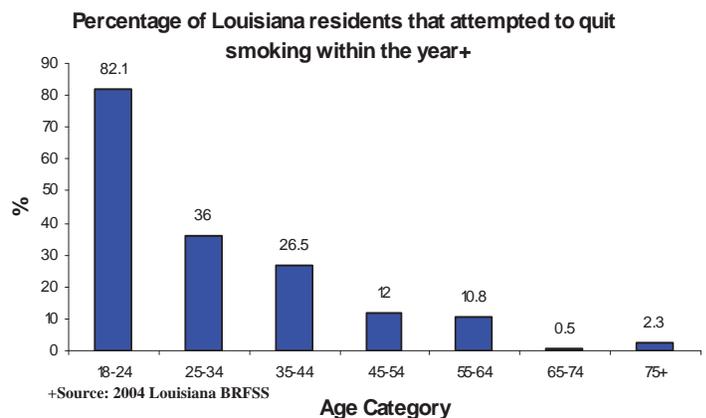
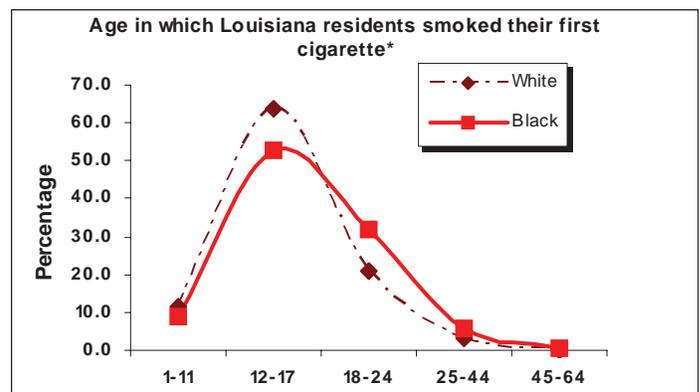
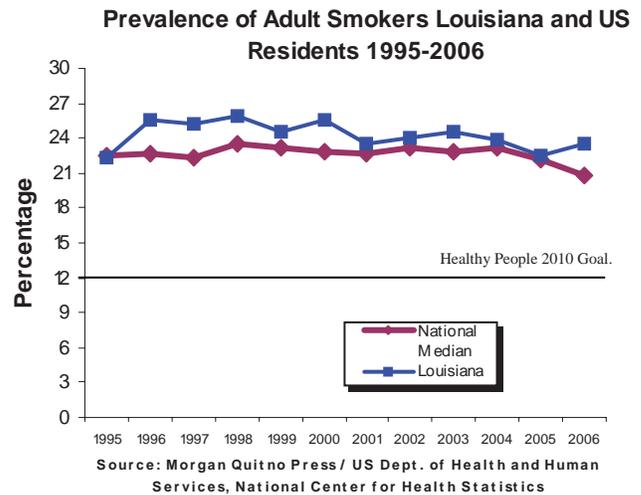
Within the past decade, rates of adult smoking have not changed significantly. Similar to previous years from the past decade, the smoking rate in 2006 (23.4%) for Louisiana residents was higher than the national median (20.8)

According to results from the 2004 BRFSS, 15.3% of the adult population has used smokeless tobacco at least once within their lifetime. Overall, 4% of Louisiana residents in the year 2004 used smokeless tobacco products on a regular basis (LA 2004 BRFSS).

The likelihood of smoking seems to begin with younger age groups. The majority of Louisiana residents claimed to have their first smoke between the ages of 12-17 years.

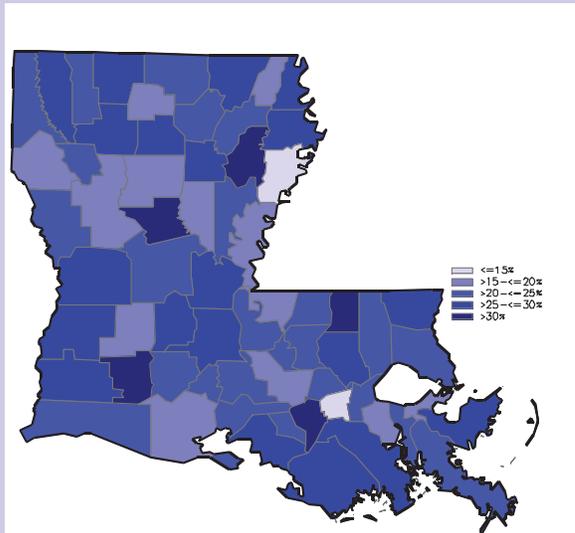
Examining the responses for secondhand policies within the households in 2006, 19.2% of residents in Louisiana allow smoking within their households. This percentage has decreased since the question was asked in the 2003 survey in which 26.1% of the respondents stated that smoking was allowed within their households. Louisiana residents that work indoors indicated that 17% of workplaces allowed smoking in indoor designated areas (lobbies, restrooms or lunch rooms) and 3% of the work environments allowed smoking in all areas.

Results from the 2004 Louisiana BRFSS show that an estimated 105,800 Louisiana residents have attempted to quit smoking within the year. Louisiana residents within the 18-24 years of age category had the highest proportion of respondents that attempted to quit smoking (82.1%) within a year. The rates of smokers that attempted to quit within a year decreased as age increased.





**Prevalence of Current Smokers by Parish 2004-2006\*\*and Region+  
for the state of Louisiana**



Parish**	N	%	95% CI
St Helena*	42	47.1	[26.4 - 68]
Assumption	121	33.6	[21.5-45.6]
Franklin	137	32.8	[21.2- 44.3]
Grant	123	30.8	[18.7 - 42.2]
Jeff Davis	163	30.1	[18 - 42.2]
Livingston	448	29.4	[23.7 - 35]
St Landry	367	29.4	[23.1 - 35.6]
Vernon	219	29	[20.2 - 37.7]
Claiborne	91	29	[15.9- 42.1]
Jackson	94	28.8	[13.1- 44.4]

\*Denotes category less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*Three data files for the years 2004, 2005 and 2006 were appended to create one data file to increase the sample size for the parishes.

Region	N	%	95% CI
1	1013	19.2	[16.1 - 22.2]
2	1001	20.9	[17.7 - 24]
3	977	27.8	[24.3 - 31.3]
4	999	24.7	[21.6 - 27.8]
5	971	26.4	[22.9 - 29.8]
6	1003	28.1	[24.6 - 31.6]
7	1013	21.9	[18.9 - 25]
8	1013	25.6	[22.2 - 29]
9	1029	26.8	[23.7 - 30]

+LA Residents that indicated that he or she currently smoke (LA BRFSS 2004)

## ALCOHOL USE

**Summary & Conclusions:** In 2006, heavy alcohol use (both binge drinking and heavy drinking) was most common among young White males with higher levels of income and education. Louisiana residents were more likely to report that they had had at least one drink in the last 30 days if they were less than 55 years old, male, White, with at least some college education, income over \$50,000 and employed. Because of potential consequences of heavy alcohol use, efforts to decrease injuries (both intentional and unintentional), heart disease, cancer, and cirrhosis of the liver, should include a focus on reducing alcohol consumption.

### Prevalence of alcohol use among adults, overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristics+	Binge Drinkers++			Heavy Drinkers^			One Drink Last 30 Days~		
	Sample Size*	%	95% CI	Sample Size*	%	95% CI	Sample Size*	%	95% CI
<b>Total</b>	<b>709</b>	<b>13.1</b>	<b>(11.9-14.2)</b>	<b>277</b>	<b>4.6</b>	<b>(3.9-5.4)</b>	<b>3056</b>	<b>46.0</b>	<b>(44.5-47.5)</b>
<b>Age</b>									
18-34	228	19.2	(16.5-22.0)	68	6.4	(4.4-8.3)	672	51.7	(48.3-55.1)
35-54	356	14.4	(12.8-16.0)	127	4.6	(3.6-5.6)	1433	51.1	(48.9-53.2)
55+	125	4.7	(3.8-5.6)	82	2.8	(2.2-3.5)	951	33.5	(31.6-35.5)
<b>Gender</b>									
Male	412	19.1	(17.1-21.2)	132	6.1	(4.7-7.6)	1299	54.5	(52.0-57.0)
Female	297	7.7	(6.7-8.7)	145	3.3	(2.6-4.0)	1757	38.3	(36.6-40.0)
<b>Race</b>									
White	558	15.2	(13.7-16.6)	219	5.2	(4.2-6.3)	2362	51.1	(49.4-52.8)
Black	89	7.9	(6.1-9.7)	39	3.1	(1.9-4.2)	488	36.0	(32.9-39.2)
<b>Education</b>									
< High school	56	7.9	(4.9-11.0)	27	4.4	(1.5-7.3)	221	27.5	(23.3-31.7)
High school grad	211	12.5	(10.6-14.4)	94	5.1	(3.7-6.5)	807	38.8	(36.1-41.3)
Some college/grad	442	14.8	(13.3-16.4)	156	4.4	(3.5-5.3)	2027	55.7	(53.7-57.7)
<b>HH Income</b>									
<\$25,000	123	7.8	(6.1-9.6)	69	3.8	(2.7-5.0)	549	31.0	(28.5-34.4)
\$25,000-\$49,999	169	14.1	(11.5-16.7)	58	4.4	(2.6-6.3)	757	48.7	(45.6-51.9)
\$50,000+	334	18.0	(16.0-20.1)	115	5.5	(4.3-6.7)	1301	60.5	(58.1-63.0)
<b>Employment</b>									
Employed	463	16.3	(14.7-17.9)	156	4.8	(3.9-5.8)	1761	54.0	(51.8-56.1)
Self-employed	131	8.9	(7.0-10.8)	65	3.7	(2.5-4.8)	762	40.0	(37.4-42.7)
Unemployed	97	13.0	(9.7-16.2)	47	6.4	(3.6-9.1)	419	40.9	(36.9-44.9)
Unable to work	17	3.7	(1.7-5.6)	9	2.1	(0.1-4.1)	109	20.9	(16.7-25.2)

\* Percentages are based on weighted data estimates. Un-weighted sample size (Binge Drinking) = 709.. Un-weighted sample size (Heavy Drinking) = 277. Un-weighted sample size (One Drink in 30 days) = 3056.

+ In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

++ The proportion who reported consuming five or more drinks on at least one occasion in the previous month.

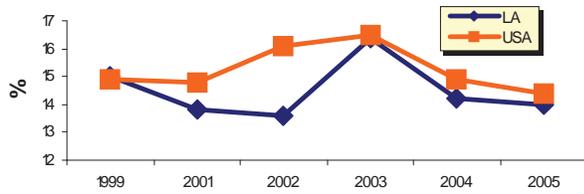
. ^ The proportion who reported drinking more than two drinks on average for men or more than one drink on average for women.

. ~The proportion who reported consuming at least one drink in the last 30 days.

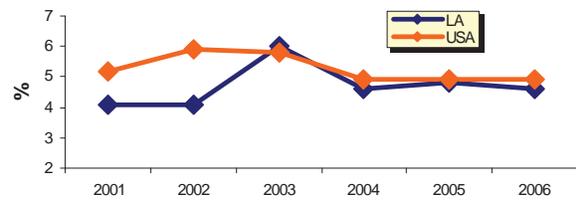
Alcohol use contributes to approximately 100,000 deaths in the United States per year (as cited in Healthy People 2010, 2000). In the United States, over 12% of residents binge drink at least once a week, meaning they consume at least five drinks in one sitting (Healthy People 2010, 2000). Alcohol consumption in excess is a risk factor for a multitude of health concerns including heart disease, cancer, and cirrhosis of the liver (Healthy People 2010, 2000). Many legislative initiatives have been put into place to limit alcohol related deaths as well as curtail consumption at an early age. (Healthy People 2010, 2000)

# ALCOHOL USE

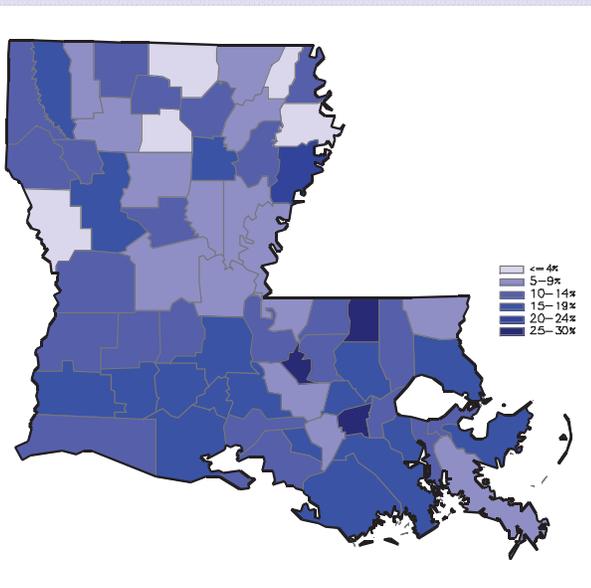
Rates of Binge Drinkers US & LA Residents



Rates of Heavy Drinkers US & LA Residents



Prevalence of Binge Drinkers in Louisiana 2004-2006 by Parish\*\*and Region+



Parish	N	%	95% CI
St James	102	29.5	[15.5 - 43.5]
W Baton Rouge	79	29.3	[15.7 - 42.9]
St Helena*	41	26.6	[1.3 - 50.7]
Tensas*	39	20.8	[0 - 52.4]
Natchitoches	169	19.4	[10.6 - 28.2]
Lafayette	846	19.3	[15.4 - 23.3]
St Bernard	109	19	[7.7 - 30.3]
Ascension	349	18.3	[12.5 - 24]
Jeff Davis	157	17.9	[6.3 - 29.4]
St Landry	363	17.5	[11.9 - 23.1]

\* Denotes categories less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*The 2004, 2005, and 2006 BRFSS data files were combined to increase the sample size by parish.

Region+	N	%	95% CI
1	1002	15.4	[12.6 - 18.3]
2	994	16.7	[13.6 - 19.9]
3	958	17.8	[14.4 - 21.2]
4	981	17.4	[14.4 - 20.5]
5	953	12.8	[10.1 - 15.5]
6	992	10.5	[8 - 12.9]
7	918	10.9	[8.5 - 13.3]
8	997	9.2	[6.7 - 11.7]
9	1002	11.7	[9.2 - 14.2]

+ 2004 LA BRFSS

In 2006, 13.1% [95% CI: 11.9-14.2] of Louisiana residents reported binge drinking at least once in the previous month. Louisiana residents between the ages of 18-34 years had a significantly higher prevalence of binge drinking at 19.2% [95% CI: 16.5-22.0] than all other age groups. An estimate of 19.1% [95% CI: 17.4-21.2] of males in Louisiana reported binge drinking at significantly higher rates than females at 7.7% [95% CI: 6.7-8.7]. Approximately 15.2% [95% CI: 13.7-16.6] of White Louisiana residents reported binge drinking at a significantly higher rate than African Americans. As education and household income level increased, binge drinking increased. An estimate of 16.3% [95% CI: 14.7-17.9] of Louisiana residents who were employed reported binge drinking in the previous month, which was the highest prevalence rate out of all of the employment status groups.

Between 1999 and 2005, rates of binge drinking, heavy drinking and any drinking remained fairly steady. Alcohol consumption of Louisiana residents appears similar to that of US residents when compared using binge drinking and heavy drinking measures. Louisiana residents are less likely to report having had at least one drink in the last 30 days than their US counterparts: 46.0% [95% CI: 44.5-47.5] in Louisiana compared to 55.2% nationally.



**Summary & Conclusions:** In Louisiana in 2006, residents aged 55-64, African American residents, and those who report being unable to work had higher rates of obesity. However, males and those who are self-employed were most likely to be overweight. Reducing overweight measures and obesity are crucial to efforts to minimize chronic illness in Louisiana.

## Overweight among adults, overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristics+	Obese**			Overweight++		
	Sample Size*	%	95% CI	Sample Size*	%	95% CI
<b>Total</b>	1847	27.1	(25.7-28.5)	2320	35.9	(34.4-37.3)
<b>Age</b>						
18-34	284	22.8	(19.9-25.7)	378	30.8	(27.7-34.0)
35-54	754	29.9	(27.8-32.0)	918	38.0	(35.8-40.2)
55-64	432	34.1	(31.0-37.0)	457	37.1	(34.1-40.2)
65+	372	24.2	(21.7-26.6)	554	40.1	(37.2-43.0)
<b>Gender</b>						
Male	672	27.7	(25.5-29.9)	1040	42.5	(40.0-45.0)
Female	1175	26.6	(25.0-28.2)	1280	29.5	(27.8-31.1)
<b>Race</b>						
White	1161	24.3	(22.8-25.8)	1634	35.1	(33.5-36.8)
Black	575	36.1	(33.0-34.2)	508	36.7	(33.5-39.9)
<b>Education</b>						
< High school	309	33.1	(29.0-37.4)	291	33.0	(28.9-37.1)
High school grad	694	31.4	(29.0-34.4)	722	35.4	(32.8-38.1)
Some college/grad	841	23.0	(21.3-24.7)	1302	36.8	(34.9-38.8)
<b>HH Income</b>						
<\$25,000	650	34.5	(31.6-37.4)	577	33.8	(30.9-36.7)
\$25,000-\$49,999	447	27.1	(24.3--30.0)	578	36.9	(33.8-40.0)
\$50,000+	483	24.0	(21.8-26.2)	790	38.7	(36.2-41.2)
<b>Employment</b>						
Employed	839	27.2	(25.2-29.2)	1132	37.9	(35.7-40.0)
Self- employed	499	24.1	(22.0-26.3)	746	40.7	(38.1-43.4)
Unemployed	277	26.0	(22.4-29.5)	285	26.1	(22.5-29.5)
Unable to work	228	42.2	(37.0-47.4)	150	31.7	(26.6-36.7)

Obesity is defined as having a body mass index (BMI) of over 30, which is calculated by dividing weight in kg by height in meters squared. Overweight is defined as having a BMI greater than or equal to 25.0 but less than 30.0. Obesity has increased dramatically in the United States over the last 25 years, from 15% in the late 1970's to 32.9% in the early 2000's (from NHANES, as cited in Centers for Disease Control and Prevention, [CDC], 2007). This epidemic has a dramatic impact on society at large due to the considerable medical costs that illnesses complicated and/or caused by obesity can incur (as cited in Healthy People 2010).

Obesity produces an increasingly negative impact in the lives of those affected in that it raises the risk of developing illnesses that inevitably reduce both the quantity of productive years as well as quality of life (Healthy People 2010). The Healthy People 2010 health objective is to "increase the proportion of adults that are at a healthy weight" to 60% (objective 19-1).

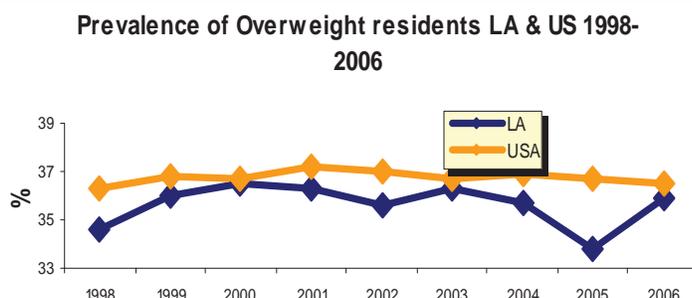
According to the Centers for Disease Control and Prevention [CDC] (2007), obesity increases the risk of chronic illnesses such as hypertension, type 2 diabetes, coronary heart disease (CHD), gall bladder disease, and cancer.

\* Percentages are based on weighted data estimates. Un-weighted sample size (obese) = 1847 Un-weighted sample size (overweight) = 2320

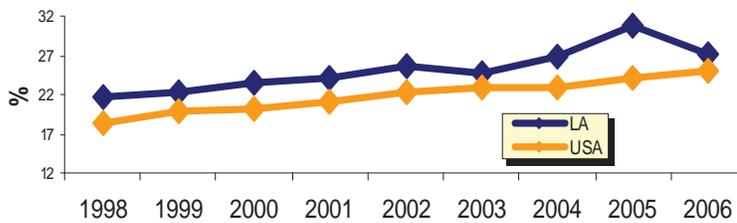
+ In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

\*\* The proportion of respondents whose BMI were greater than or equal to 30.0

++ The proportion of respondents whose BMI were greater than or equal to 25.0 but less than 30.0



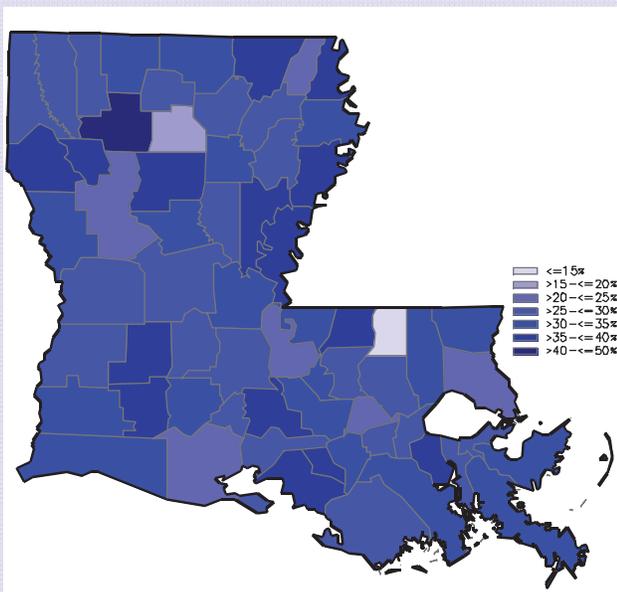
**Prevalence of Obese LA & US residents 1998-2006  
BRFSS**



In 2006, the proportion of Louisiana residents classified as obese was 27.1% [95% CI: 25.7-28.5]. Those in the 55-64 age group had a significantly higher obesity rate (34.1% [95% CI: 31.0-37.0]) than those in other age groups. Another 35.9% [95% CI: 34.4-37.3] of Louisiana residents were classified as overweight. Among those aged 65 and older, overweight was especially high: 40.1% [95% CI: 37.2-43.0]. Only 37% of Louisiana residents were classified as having a healthy weight.

The prevalence of obesity has been rising steadily over the last decade, while overweight has increased slightly. Louisiana's obesity prevalence has remained above the national average throughout the decade.

**Prevalence of Obesity in Louisiana 2004-2006 by Parish\*\* and Region+**



Parish	N	%	95% CI
Bienville	71	46.4	[29.9– 62.8]
Red River*	44	39.6	[21.6 - 57.6]
E Carroll*	33	39.5	[13.1 - 65.5]
Morehouse	149	39.1	[27.8 - 50.4]
Allen	136	39	[26.2 - 51.8]
Concordia	115	38.6	[26.2 - 51]
E Feliciana	76	38.6	[24.7 - 52.4]
Tensas*	36	37.6	[10.5 - 64.7]
St Mary	263	37.4	[29.5 - 45.3]
Catahoula	80	37.1	[21.5 - 52.7]

\* Denotes categories less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*The 2004, 2005, and 2006 BRFSS data files were combined to increase the sample size by parish.

Region	N	%	95% CI
1	962	26.9	[23.6 – 30.1]
2	949	23.4	[20.3 - 26.5]
3	939	31.4	[27.8 - 34.9]
4	967	28	[24.7 - 31.4]
5	921	25.6	[22.2 - 28.9]
6	951	27	[23.6 - 30.3]
7	945	27.7	[24.3 - 31]
8	949	28.6	[24.9 - 32.2]
9	975	25.2	[22 - 28.3]

+ Respondents that were obese by region (2004 LA BRFSS)

## FRUITS AND VEGETABLES

**Summary & Conclusions:** In 2005, the proportion of residents with inadequate fruit and vegetable consumption was highest among residents with lower incomes, lower education levels, and respondents who were unable to work. Increasing fruit and vegetable consumption among Louisiana residents must remain a critical focus of chronic disease prevention efforts.

### Fruit and vegetable among adults, overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2005

Characteristics+	Adequate Fruit and Vegetable Consumption**		
	Sample Size*	%	95% CI
<b>Total</b>	598	20.2	(18.5-22.0)
<b>Age</b>			
18-34	114	18.9	(15.3-22.6)
35-54	212	18.4	(15.8-21.0)
55+	272	24.2	(21.4-27.0)
<b>Gender</b>			
Male	184	18.4	(15.6-21.3)
Female	414	21.9	(19.7-24.0)
<b>Race</b>			
White	397	19.9	(17.8-22.1)
Black	151	19.2	(15.8-22.5)
<b>Education</b>			
< High school	83	19.6	(15.1-24.2)
High school grad	180	17.3	(14.5-20.1)
Some college/grad	333	22.4	(19.9-25.0)
<b>HH Income</b>			
<\$25,000	169	19	(15.8-22.2)
\$25,000-\$49,999	145	19.7	(16.3-23.1)
\$50,000+	166	20.8	(17.6-24.0)
<b>Employment</b>			
Employed	267	19.7	(17.2-22.3)
Self-employed	199	23.5	(20.2-26.9)
Unemployed	86	19.7	(15.1-24.3)
Unable to work	43	15.0	(9.8-20.2)

\* Percentages are based on weighted data estimates. Un-weighted sample size =598

+ In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

\*\* The proportion of respondents that reported fruit and vegetable consumption was more than 5 times per day on average

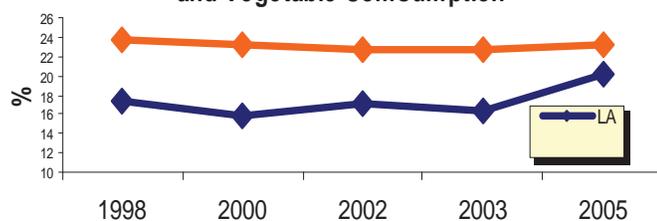
Diet and Nutrition play a vital role in the development and maintenance of a healthy lifestyle (Healthy People 2010, 2000). Fruit and vegetable consumption continues to be a major focus in promoting healthy eating behaviors (Healthy People 2010, 2000). Healthy People 2010 health objectives include increasing “the proportion of persons aged 2 years and older who consume at least two daily servings of fruit” to 75% (objective 19-5) and “the proportion of persons aged 2 years and older who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables” to 50% (objective 19-6) (2000).

Nutritional and dietary factors are linked to four out of ten leading causes of death which include cancer, diabetes, stroke and coronary heart disease (CHD) (as cited in Healthy People 2010, 2000). Consuming a diet rich in fruits and vegetables decreases the risk of developing chronic illnesses and has been shown to be instrumental in managing weight (Centers for Disease Control and Prevention [CDC], 2007).

In 2005, the proportion of Louisiana residents who reported consuming fruits and vegetables at least five times per day was 20.2% [95% CI: 18.5-22.0], which is significantly lower than the US proportion of 23.2%. Louisiana residents aged 55 or older were more likely to consume fruits and vegetables at least five times per day (24.3% [95% CI: 21.4-27.0]) than were their younger counterparts.

Between 1998 and 2005, rates of adequate fruit and vegetable consumption have remained fairly steady in Louisiana and nationally. Louisiana rates remain, however, much lower than US rates.

US & LA Residents that indicated Adequate Fruit and Vegetable Consumption



# PHYSICAL ACTIVITY

**Summary & Conclusions:** In 2006, almost one-third of Louisiana residents reported that they did not engage in any leisure-time physical activity such as running, calisthenics, golf, gardening, or walking in the previous month. Residents who were 55 years and older, female, reporting lower levels of education and household income, and those unable to work were more likely to report not participating in leisure-time physical activity.

## Prevalence of adults who have inadequate physical activity, overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2005

Characteristics+	Sample Size*	%	95% CI
<b>Total</b>	1736	61.7	59.4-63.9
<b>Age</b>			
18-34	309	49.2	44.3-53.9
35-54	709	65.2	62.0-68.4
55+	718	70.9	67.8-74.1
<b>Gender</b>			
Male	560	57.2	53.4-60.9
Female	1176	65.8	63.2-68.4
<b>Race</b>			
White	1141	59.9	57.2-62.7
Black	484	66.2	61.7-70.8
<b>Education</b>			
< High school	285	74.7	68.6-80.8
High school grad	618	63.6	59.7-67.4
Some college/grad	829	56.9	53.7-60.1
<b>HH Income</b>			
<\$25,000	596	67.9	63.6-72.1
\$25,000-\$49,999	460	62.3	57.9-66.6
\$50,000+	399	54	50.0-58.1
<b>Employment</b>			
Employed	808	58.6	55.4-61.8
Self- employed	477	65.7	61.7-69.7
Unemployed	234	55	48.7-61.4
Unable to work	213	81.1	75.4-86.7

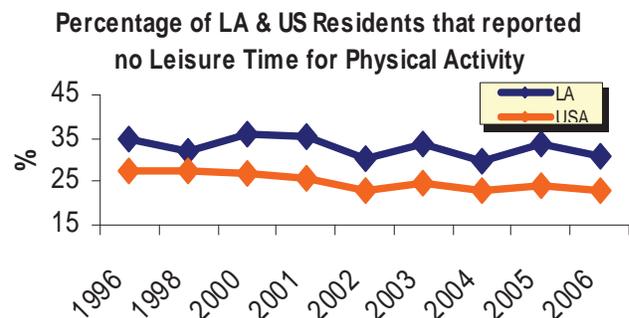
\* Percentages are based on weighted data estimates. Un-weighted sample size = 1736  
 + In this analysis, data for each category are included only for persons for whom the data were available; excluded data were either unknown or refused.  
 \* The proportion who reported not participating in any leisure-time physical activity such as running, calisthenics, golf, gardening or walking during the past month.

Americans' sedentary lifestyle has heavily contributed to the recent increase in overweight and obesity (as cited in Healthy People 2010). According to the Healthy People 2010, 40 out of 100 adults in the United States reported participating in no leisure-time physical activity in 1997 (2000). The Healthy People 2010 (2000) health objective is to "reduce the number of adults who engage in no leisure-time physical activity (objective 22-1)" to 20%.

According to the U.S. Surgeon General's report on physical activity (CDC, 1999), physical activity can reduce the risk of hypertension, some types of cancer, coronary heart disease, and early death.

In 2006, the proportion of Louisiana residents who reported not participating in any leisure-time physical activity such as running, calisthenics, golf, gardening or walking during the past month was 31.0% [95% CI: 29.6-32.4]. As age increased, the proportion of those with no leisure-time physical activity increased, from 27.6% [95% CI: 24.6-30.7], age range 18-34 years, to 36.0% [95% CI: 34.0-38.0], age range 55+. As education level and household income increased, the proportion of residents with no leisure-time physical activity decreased significantly. Louisiana residents who report being unable to work are the most likely to report having had no leisure-time physical activity, 55.7% [95% CI: 50.7-60.8].

Over the last decades, Louisiana and the US have made some progress in reducing the proportion of adults reporting no physical activity. However, the sedentary lifestyle remains much more prevalent in Louisiana than in the US in general.



# HYPERTENSION

**Summary & Conclusions:** The 2005 prevalence rates for Louisiana residents who were ever told by a health care provider that they have high blood pressure or hypertension was highest in the following groups: age group 55 and older, African American residents, lower education and household income level, and residents unable to work. Those who reported self-employment also had high rates of hypertension.

## Prevalence of hypertension among adults, overall and by select categories Behavioral Risk Factor Surveillance System, Louisiana 2005

Characteristics+	Hypertensive residents**		
	Sample Size*	%	95% CI
<b>Total</b>	995	29.4	[27.5-31.3]
<b>Age</b>			
18-34	70	10.2	[7.4-12.9]
35-54	312	26.9	[23.9-29.9]
55-64	613	54.6	[51.2-57.9]
65+	357	57.1	[52.6-61.6]
<b>Gender</b>			
Male	347	29.8	[26.7-32.9]
Female	648	29.0	[26.8-31.3]
<b>Race</b>			
White	598	26.8	[24.5-29.0]
Black	324	35.0	[31.0-39.0]
<b>Education</b>			
< High school	205	43.9	[38.0-49.9]
High school grad	375	30.4	[27.1-33.7]
Some college/grad	411	24.6	[22.1-27.1]
<b>HH Income</b>			
<\$25,000	379	35.4	[31.7-39.1]
\$25,000-\$49,999	223	25.6	[22.0-29.2]
\$50,000+	196	24.7	[21.3-28.1]
<b>Employment</b>			
Employed	336	21.1	[18.7-23.5]
Self-employed	386	45.5	[41.5-49.5]
Unemployed	106	19.1	[14.8-23.4]
Unable to work	165	56.2	[49.0-63.5]

\* Percentages are based on weighted data estimates. Un-weighted sample size = 995  
 + In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.  
 \*\*The proportion who reported that they were ever told by health care professional that they have high blood pressure. Women who only have HBP during pregnancy and adults who were borderline hypertensive are not included.

Hypertension or high blood pressure affects 1 in every 3 United States citizens (CDC, 2007). Hypertension increases the risks of developing cardiovascular disease, stroke, and a number of fatal illnesses or conditions (CDC, 2007). Currently cardiovascular disease is the number one cause of death in all people, and stroke is third (Healthy People 2010, 2000). One of the health objectives in Healthy People 2010 designed to address risk factors for cardiovascular disease and stroke is to “reduce the proportion of adults with high blood pressure (objective 12-9)” to 16% (Healthy People 2010, 2000).

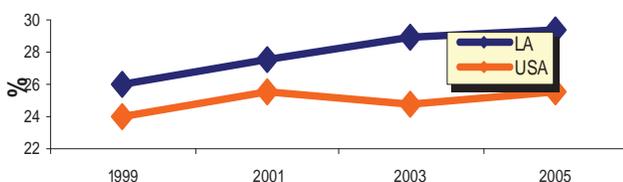
Hypertension or high blood pressure can be developed at any age and can be extremely deadly (CDC, 2007). Hypertension can be maintained and controlled by regular blood pressure checks, as well as proper diet (CDC, 2007).

In 2005, the proportion of Louisiana residents that were ever told by a health care professional that they have high blood pressure was 29.4% [95% CI: 27.5-31.3]. Those aged 65 and older had the highest prevalence rate, 57.1% [95% CI: 52.6-61.6].

Regarding race-ethnicity, African American Louisiana residents had a significantly higher prevalence rate, 35.0% [95% CI: 31.0-39.0], than Whites, 26.8% [95% CI: 24.5-29.0]. As education level and household income increased, the prevalence of high blood pressure diagnosis decreased. Louisiana residents who reported being unable to work had a significantly higher prevalence rate, 56.2% [95% CI: 49.0-63.5] than employed, self-employed and unemployed residents.

From 1999 to 2005, the prevalence of hypertension has increased slightly, both nationally and in Louisiana. Unfortunately, Louisiana’s rate has remained higher than the national median through that time period.

**US & LA Residents that reported having hypertension 1999, 2001, 2003 & 2005**

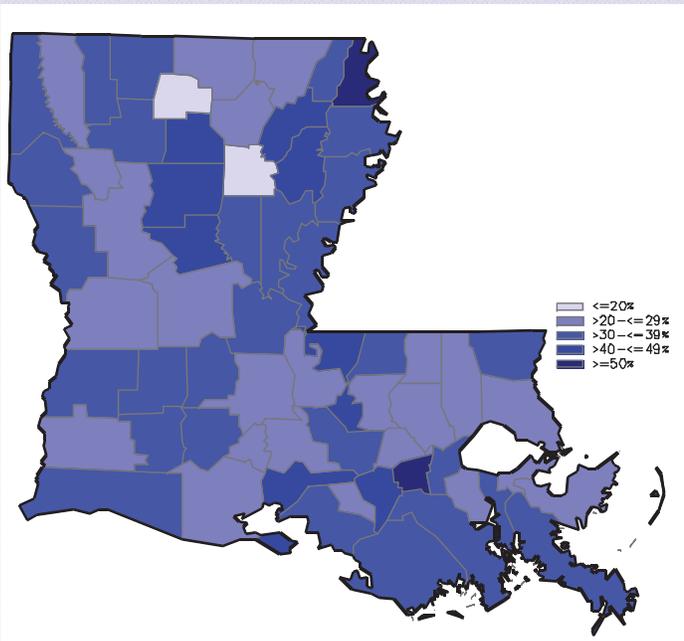


**HYPERTENSION OR HIGH BLOOD PRESSURE AFFECTS 1 IN EVERY 3 UNITED STATES CITIZENS**



**Prevalence of Hypertension for Louisiana 2004-2005 by Parish\*\* and Region+**

For the combined years 2004-2005, the five parishes with the highest prevalence for hypertension were: E Carroll\*(57.3%), St. James (53.3%), Richland (48.4%), Jackson (47.3%), and W Feliciana\*(45.7%).



Parish	N	%	95% CI
E Carroll*	25	57.3	[23.2 - 91.4]
St. James	61	53.3	[34.3 - 72]
Richland	71	49.4	[32.2 - 66.6]
Jackson	61	47.3	[28.4 - 66.3]
W. Feliciana*	28	45.7	[22.4 - 69]
Franklin	88	43.5	[28.6 - 58.3]
Grant	83	42.3	[25.1 - 59.4]
Assumption	72	41.4	[24.7 - 58.1]
Winn	75	40.6	[25.9 - 55.3]
Iberia	151	40.5	[29.8 - 51.3]

\* Denotes categories less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*The 2004 and 2005 BRFSS data files were combined to increase the sample size by parish.

Region	N	%	95% CI
1	956	30.5	[27.1 - 33.8]
2	959	28.8	[25.5 - 32.2]
3	913	31.6	[28.1 - 35.1]
4	942	28.7	[25.4 - 32]
5	918	31	[27.6 - 34.5]
6	954	36.9	[33.3 - 40.5]
7	963	33.1	[29.7 - 36.5]
8	965	33.2	[29.6 - 36.7]
9	977	28.4	[25.3 - 31.6]

+ Residents with hypertension by region (2004 LA BRFSS)

## CHOLESTEROL AWARENESS

**Summary & Conclusions:** In 2005, Louisiana residents were least likely to report having had their cholesterol checked in the past five years if they were: over 55 years old; Black; had a high school education or less; had a household income of \$50,000 or less; or were unemployed. Whites had a higher proportion of reported high cholesterol levels compared to African Americans. High cholesterol levels also increased for Louisiana residents aged 55 years or more.

High cholesterol is a risk factor for developing cardiovascular disease, more specifically, coronary heart disease (CHD) (Healthy People, 2000). In the United States, about 12 million people currently have CHD and over 50 million adults in the United States have high cholesterol (Healthy People, 2000). Therefore, one focus of Healthy People 2010 is to reduce CHD and other heart diseases by focusing on the risk factors, such as cholesterol.

### Cholesterol awareness among adults, overall and by select categories Behavioral Risk Factor Surveillance System

Characteristic+	Ever Had Cholesterol Checked**			Had Cholesterol Checked Last 5 Years***			Ever Told High Cholesterol++		
	Sample Size*	%	95% CI	Sample Size*	%	95% CI	Sample Size*	%	95% CI
<b>Total</b>	2337	77	(75.0-79.0)	2184	73.9	(71.8-76.0)	779	30.3	(28.1-32.4)
<b>Age</b>									
18-34	377	59.5	(58.9-64.1)	349	57.1	(52.3-61.7)	50	11.9	(8.1-15.7)
35-54	940	79.4	(76.5-82.2)	870	75.1	(72.1-78.0)	275	29.9	(26.5-33.3)
55+	1020	92.9	(91.3-94.5)	965	20.9	(18.1-23.8)	454	43.7	(40.3-47.2)
<b>Gender</b>									
Male	800	76.4	(73.2-79.7)	753	74	(70.7-77.4)	272	30.1	(26.6-33.7)
Female	1537	77.5	(75.0-79.9)	1431	73.8	(71.2-76.3)	507	30.4	(27.9-33.0)
<b>Race</b>									
White	1630	80.4	(78.1-82.7)	1503	76.3	(73.9-78.7)	561	32.3	(29.7-35.0)
Black	548	70.3	(66.0-74.6)	530	69.4	(65.1-73.7)	170	25.8	(21.6-30.0)
<b>Education</b>									
< High school	307	72.6	(67.1-78.2)	290	70.8	(65.1-76.5)	126	37.5	(31.0-44.1)
High school grad	785	71.8	(68.2-75.5)	736	68.8	(65.0-72.6)	274	30.2	(26.5-33.9)
Some college/ grad	1239	82.1	(79.6-84.6)	1153	78.6	(76.0-81.2)	378	28.6	(25.7-31.5)
<b>HH Income</b>									
<\$25,000	682	72.7	(68.9-76.6)	641	70.2	(66.3-74.2)	262	34.1	(29.9-38.3)
\$25,000-\$49,999	591	75.1	(71.2-79.0)	550	71.5	(67.5-75.6)	181	26.5	(22.3-30.7)
\$50,000+	671	86.4	(83.6-89.2)	630	82.6	(79.5-85.7)	207	30.4	(26.5-34.2)
<b>Employment</b>									
Employed	1098	76.5	(73.7-79.3)	1030	73.3	(70.4-76.2)	293	24.5	(21.7-27.4)
Self-employed	716	88.2	(85.3-91.0)	666	85.2	(82.1-88.3)	278	38	(33.8-42.1)
Unemployed	279	60.9	(54.8-66.9)	260	57.9	(51.7-64.0)	86	25.2	(19.5-30.9)
Unable to work	241	81	(74.5-87.6)	225	78.3	(71.4-85.1)	121	47.4	(39.7-55.0)

One of the Healthy People 2010 health objectives is to reduce the average total blood cholesterol levels of all adults to 199mg/dL (2000). Health practitioners recommend that adults check their blood cholesterol levels once every 5 years in order to manage these levels more effectively (Healthy People, 2000). Healthy cholesterol levels can be maintained through a healthy diet as well as increasing physical activity (Healthy People, 2000).

\* Percentages are based on weighted data estimates. Un-weighted sample size (cholesterol check) = 2377. Un-weighted sample size (checked in five years) = 2184. Un-weighted sample size (high cholesterol) = 779.

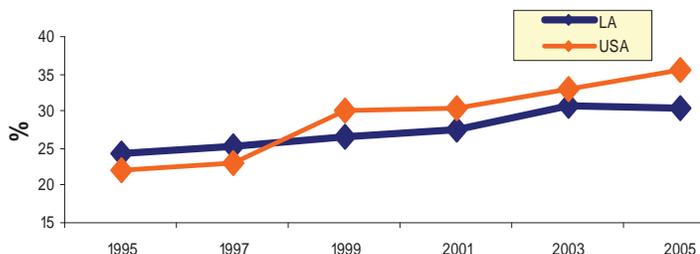
+In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

\*\*The proportion who reported ever had cholesterol checked in their lifetime.

\*\*\* The proportion who reported having cholesterol checked in past five years.

++The proportion who reported that they were told they have a high level of cholesterol by a doctor, nurse or health care professional

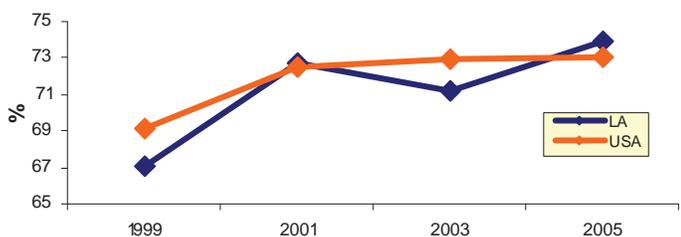
**Individuals that were told that he or she had high Cholesterol levels US & LA Respondents for BRFSS**



In 2005, 73.9% of Louisiana residents reported having their cholesterol checked in the last 5 years. Louisiana residents between the ages 35-54 years were more likely to report having a recent cholesterol check than those in all other age categories.

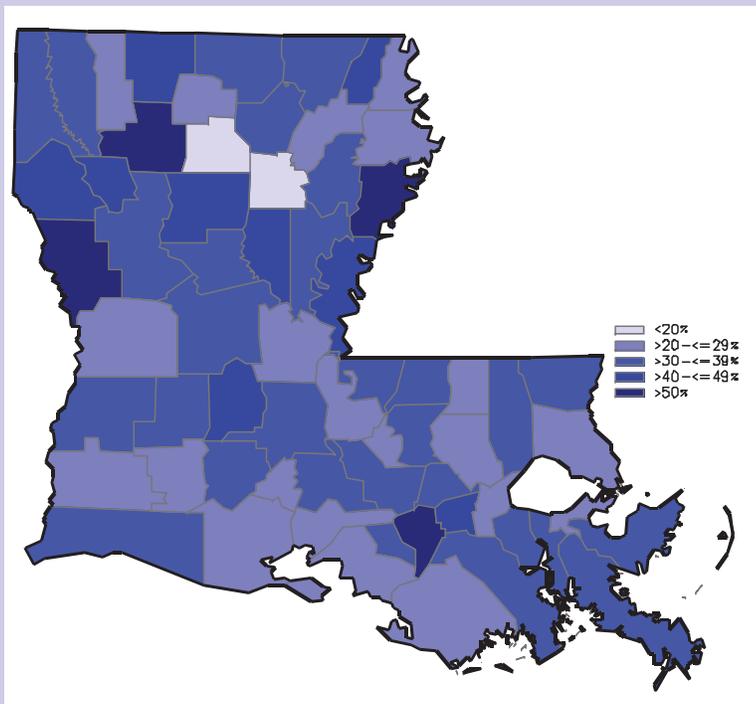
Between 1999 and 2005, regular cholesterol checks became more common among both Louisiana and US residents. Louisiana shows similar rates compared to national rates for regular checks of cholesterol levels.

**US & LA Residents that had their Cholesterol checked in the last 5 Years**



When examining cholesterol levels in 2005, 30.3% of Louisiana residents were told by a health professional that they had high cholesterol. Whites had a higher rate of reported high cholesterol levels compared to African-Americans. Gender had no significant effect on reported high cholesterol levels. Persons aged 55 years and above had the highest rate of reported high cholesterol levels compared to other age groups. In terms of employment categories, persons reporting inability to work had the highest rate of high cholesterol levels.

**Prevalence of Louisiana residents with High Cholesterol levels by Parish 2004-2005\*\* and Region +**



Parish**	N	%	95% CI
Bienville*	35	57.1	[32.6 - 83.1]
Tensas*	25	55.3	[22.6 - 88]
Sabine	53	53.4	[34.2 - 72.8]
Assumption	58	52	[33.8 - 71.3]
Concordia	65	47.8	[28 - 67.3]
Claiborne	50	46.3	[28.2 - 64]
W Carroll*	31	45.7	[22.1- 69.3]
Red River*	17	45	[13.5 - 77.3]
St James*	44	44.7	[25.3- 64.2]
Desoto	54	44.2	[26.6 - 61.7]

\*Denotes category less than 50 respondents. Inferences based on categories with less than 50 respondents should be used with caution.

\*\*Two data files for the years 2004 and 2005 were appended to create one data file to increase the sample size for the parishes.

Region+	N	%	95% CI
1	784	31.8	[16.1 - 22.2]
2	754	32.1	[17.7 - 24]
3	726	32.9	[24.3 - 31.3]
4	705	27.7	[21.6 - 27.8]
5	719	30.4	[22.9 - 29.8]
6	725	36.6	[24.6 - 31.6]
7	770	37.7	[18.9 - 25]
8	726	32.2	[22.2 - 29]
9	776	30.9	[23.7 - 30]

+2004 BRFSS

**Summary & Conclusions:** In 2006, Louisiana residents aged 65 and older were much more likely to receive influenza vaccines (flu shots) and pneumonia vaccines if they were White and had higher levels of education and income. Those over 75 years old were more likely to have received these immunizations than the 65-74 year olds.

## Immunizations among people aged 65 years or older, overall and by select categories Behavioral Risk Factor Surveillance System, Louisiana 2006

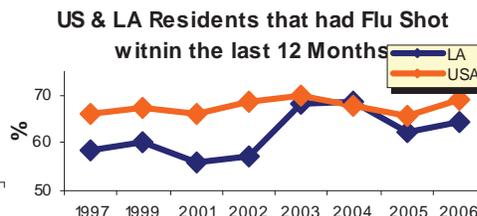
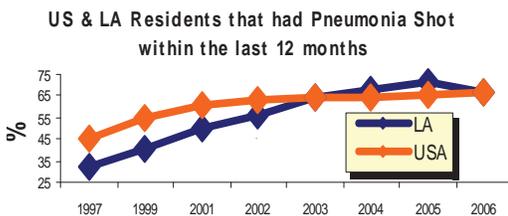
Characteristics+	Had Flu Shot Last 12 Months++			Had Pneumonia Vaccine Last 12 Months^		
	Sample Size*	%	95% CI	Sample Size*	%	95% CI
<b>Total</b>	<b>987</b>	<b>64.4</b>	<b>(61.6-67.2)</b>	<b>1007</b>	<b>66.4</b>	<b>(63.7-69.2)</b>
<b>Age</b>						
65-74	308	62.1	(57.4-66.8)	299	62.5	(57.8-67.3)
75+	679	66	(62.7-69.4)	708	69.1	(65.8-72.4)
<b>Gender</b>						
Male	522	57.6	(53.9-61.3)	530	58.5	(54.8-62.2)
Female	465	72.2	(68.1-76.3)	477	75.5	(71.5-79.5)
<b>Race-Ethnicity</b>						
White	765	69.0	(66.0-72.1)	789	72.1	(69.1-75.0)
Black	147	48.2	(41.4-54.9)	145	47.3	(40.5-54.1)
<b>Education</b>						
< High school	226	60.2	(54.1-66.3)	228	62.2	(56.1-68.2)
High school grad	294	58.6	(53.8-63.5)	324	64.7	(59.9-69.5)
Some college/grad	464	71.1	(67.3-75.0)	452	70.3	(66.4-74.2)
<b>HH Income</b>						
<\$25,000	354	59.5	(55.0-63.9)	384	66.3	(61.9-70.6)
\$25,000-\$49,999	208	68.1	(62.2-74.0)	213	70.8	(65.0-76.6)
\$50,000+	133	71.8	(64.7-78.9)	117	63.3	(55.8-70.9)
<b>Employment</b>						
Employed	85	65.5	(56.9-74.2)	72	53.1	(43.7-62.4)
Self-employed	760	65.8	(62.6-69.0)	783	68.7	(65.6-71.9)
Unemployed	80	55.0	(45.9-64.1)	86	62.9	(54.0-71.8)
Unable to work	59	59.2	(47.7-70.7)	62	60.8	(49.1-72.5)

Immunizations are an effective way to prevent many common and debilitating diseases. On average, about 200,000 US residents are hospitalized from influenza complications each year, and about 36,000 people die. About 5,000 people die nationally from Pneumococcal pneumonia each year; most are older adults. Thus, high rates of influenza and pneumonia vaccines are essential to a healthy society. The Healthy People 2010 objective is for 90% of adults aged 65 and older to receive annual flu shots and one-time pneumonia vaccines.

In 2006, 66.4% [95% CI: 63.7-69.2] of Louisiana residents 65 and older reported that they have ever had a pneumonia vaccine. Of those 75 and older, 75.5% [95% CI: 71.5-79.5] had a significantly higher prevalence of having the vaccine. Females and Whites were significantly more likely than males and African Americans to receive both influenza vaccines and pneumonia vaccines.

Over the last ten years, Louisiana's rates of influenza and pneumonia vaccine progressed from being significantly lower than the US rates to reaching or surpassing US rates. Unfortunately, the proportion of Louisiana residents who reported having influenza vaccines in 2006 was significantly lower than the US proportion.

\* Percentages are based on weighted data estimates. Un-weighted sample size (Flu shot)= 987. Un-weighted sample size (Pneumonia Vaccine ) = 1007.  
 + In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.  
 ++ Among those aged 65 or older, the proportion who reported that they had a flue vaccine, either by injecting in the arm or spraying in the nose during the past year.  
 ^ Among those aged 65 or older, the proportion who reported that they ever had a pneumonia vaccine.



**Summary & Conclusions:** In 2006, Louisiana residents who were older, African American, had lower levels of education and income, and were disabled, were more likely to report having permanent teeth removed than those who were younger, White, or had higher levels of income and education. Residents who reported being unable to work were much more likely to have had at least one permanent tooth removed, and also much more likely to report having all their natural teeth removed. Younger adults, White adults, those with higher education and income levels, and those who are employed were the most likely to have visited the dentist within the past year.

## Oral health among adults, overall and by select categories Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristics+	Had Permanent Teeth Removed~			Visited Dental Clinic**		
	Sample Size*	%	95% CI	Sample Size*	%	95% CI
Total	3791	49.0	(47.5-50.5)	4441	63.5	(62.0-64.9)
Age						
18-34	326	24.3	(21.3-27.3)	855	66.7	(63.5-69.9)
35-54	1355	49.5	(47.3-51.7)	1894	64.4	(62.3-66.6)
55+	2110	76.6	(74.9-78.4)	1692	58.6	(56.5-60.7)
Gender						
Male	1269	47.8	(45.3-50.3)	1468	61.9	(59.4-64.4)
Female	2522	50.1	(48.4-51.9)	2973	64.9	(63.2-66.6)
Race						
White	2492	45.2	(43.5-46.9)	3337	67.5	(65.8-69.1)
Black	1013	58.8	(55.5-62.1)	778	53.4	(50.2-56.6)
Education						
< High school	729	71.1	(66.3-75.8)	321	37.6	(33.0-42.1)
High school grad	1425	55.6	(52.9-58.4)	1321	58.9	(56.3-61.5)
Some college/grad	1631	39.0	(37.1-41.0)	2795	73.2	(71.4-74.9)
HH Income						
<\$25,000	1370	64.8	(61.7-67.9)	809	44.1	(41.0-47.3)
\$25,000-\$49,999	915	49.1	(46.0-52.3)	1112	64.9	(61.8-68.0)
\$50,000+	796	35.5	(33.1-37.8)	1721	77.8	(75.7-79.9)
Employment						
Employed	1433	40.5	(38.4-42.7)	2310	68.5	(66.5-70.6)
Self-employed	1382	66.9	(64.2-69.5)	1233	60.2	(57.6-62.8)
Unemployed	534	39.9	(36.1-43.7)	677	61.3	(57.4-65.2)
Unable to work	428	79.2	(74.6-83.8)	202	40.7	(35.6-45.8)

\* Percentages are based on weighted data estimates. Un-weighted sample size (Permanent teeth) = 3791

Un-weighted sample size = (Dental visits) = 2320

+ In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused.

~ The proportion of adults who reported ever had permanent teeth removed

\*\*The proportion of adults who reported that have visited dental clinic in last 12 months

Oral health can have a significant impact on an individual's mental and physical health status (Healthy People 2010, 2000). Millions of Americans deal with oral diseases such as cavities and periodontal disease (Healthy People 2010, 2000).

Dental cavities are the most common disease in childhood (Healthy People 2010). It is essential to maintain proper dental care in order to prevent poor oral health outcomes, by visiting a dental health care professional twice a year (Healthy People 2010).

The Healthy People 2010 goal related to oral health is to prevent and manage oral diseases and improve the quality and access to dental services (Healthy People 2010, 2000).

In 2006, 49.0% [95% CI: 47.5-50.5] of all Louisiana residents have had at least one permanent tooth removed. Of Louisiana residents 65 and older, 28.9% [95% CI: 26.3-31.6] reported having had all their natural teeth removed.

African American Louisiana residents aged 65 and older were much more likely to have had all their teeth removed, 47.7% [95% CI: 41.0-54.5], compared to 24.1 [95% CI: 21.3-27.0].

In 2006, 63.5% [95% CI: 62.0-64.9] of Louisiana adults reported visiting the dentist or dental clinic within the past year. As the age range increased, the proportion of adults who have seen a dentist or dental clinic decreased.

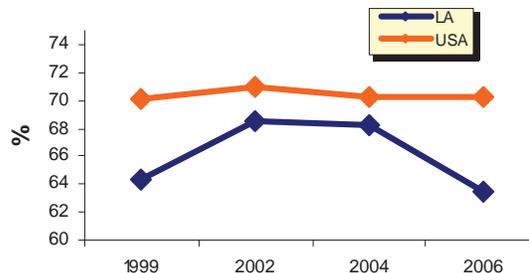
Employed residents were much more likely to have had a recent dental visit than were those unable to work: 68.5% [95% CI: 66.5-70.6] compared to 40.7% [95% CI: 35.6-45.8].

The proportion of Louisiana and US residents who have had at least one tooth removed did not change dramatically between 1999 and 2006, with Louisiana rates slightly higher. The proportion of older adults who had all their teeth removed decreased over that time period.

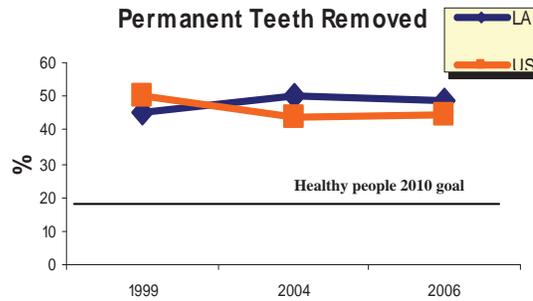
Unfortunately, Louisiana rates remained substantially higher than US rates. A higher proportion of residents had seen a dentist recently in 2002 and 2004, but in 2006 this proportion dropped down to the lower rate seen in 1999.

The Healthy People 2010 objective for this measure is to reduce the proportion of older adults who have had all their teeth removed to 20%.

**US & LA Residents that visited a Dental Clinic within a year**



**US & LA Residents that have had Permanent Teeth Removed**





**Summary & Conclusions:** Louisiana women who had higher levels of education and income, as well as those who were employed, were more likely to report having had a recent PAP test or mammogram in 2006. Efforts to improve women's health through early detection of breast and cervical cancer should emphasize increasing screening rates among women with lower socio-economic status.

## Women's pap test and mammogram screening among adults, overall and by select categories. Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristics+	Had Pap Test Past 3 Years++			Women aged 40+ Had mam- mogram Last 2 Years^			Women aged 50+ Had mam- mogram Last 2 Years~				
	Sample Size*	%	95% CI	Sample Size*	%	95% CI	Sample Size*	%	95% CI		
<b>Total</b>	<b>2391</b>	<b>84.5</b>	<b>(82.7-86.2)</b>	<b>2455</b>	<b>75.8</b>	<b>(74.1-77.5)</b>	<b>1867</b>	<b>78.9</b>	<b>(77.0-80.8)</b>		
<b>Age</b>				<b>Age</b>			<b>Age</b>				
18-34	721	84.6	(81.3-87.9)	40-54	1012	72.5	(69.8-75.2)	50-64	1109	80.1	(77.7-82.5)
35-54	1055	86.5	(84.3-88.7)	55+	1443	78.7	(76.5-80.9)	65+	758	77.2	(74.1-80.4)
55+	615	80.1	(76.9-83.4)								
<b>Race</b>											
White	1636	85.3	(83.3-87.3)		1797	76.3	(74.4-78.2)		1374	79.5	(77.4-81.6)
Black	604	86.9	(83.7-90.2)		511	75.5	(71.4-79.7)		379	79.4	(74.6-84.2)
<b>Education</b>											
< High school	217	73.6	(67.6-79.6)		303	63.1	(57.9-68.4)		270	65.7	(60.0-71.3)
High school grad	712	81.7	(78.2-85.2)		848	73.9	(70.9-76.9)		648	78.2	(75.0-81.4)
Some college/grad	1460	88.3	(86.2-90.4)		1303	81.4	(79.3-83.6)		948	85	(82.7-87.3)
<b>HH Income</b>											
<\$25,000	624	82.1	(78.8-85.4)		786	66.2	(62.7-69.8)		562	70.7	(67.0-74.5)
\$25,000-\$49,999	614	86.9	(83.6-90.1)		559	77	(73.6-80.3)		427	83.3	(79.8-86.7)
\$50,000+	766	90.4	(87.6-93.3)		685	84.8	(82.0-87.6)		433	89.2	(86.3-92.1)
<b>Employment</b>											
Employed	1286	88.5	(86.3-90.6)		978	78.4	(75.8-81.0)		595	82.2	(79.0-85.4)
Self- employed	437	81.5	(77.9-85.2)		877	78.5	(75.6-81.4)		825	79.6	(76.6-82.6)
Unemployed	547	79.1	(74.9-83.3)		385	67.4	(62.9-71.9)		276	73.5	(68.4-78.6)
Unable to work	111	81.0	(73.5-88.4)		205	72.8	(67.2-78.4)		164	75.5	(69.5-81.5)

\* Percentages are based on weighted data estimates. Un-weighted sample size (pap test) = 2391. Un-weighted sample size (40+ mammogram) = 2455. Un-weighted sample size (50+ mammogram) = 1867.

+In this analysis, data for each category are included only for persons for whom the data are available; excluded data are either unknown or refused..

++The proportion of women who reported that they had PAP test in the last 3 years

^ The proportion of women aged 40 years or older who reported that they had mammogram test in the last 2 years.

~The proportion of women aged 50 years or older who reported that they had mammogram test in the last 2 years.

Early detection of breast and cervical cancers has been shown to increase a woman's chances of survival. Pap tests are used in order to determine if the cells of the cervix are abnormal, which may be due to an infection or cervical cancer (The National Women's Health Information Center, 2006). Pap tests provide a crucial step in prevention because they can help find cancerous cells in the cervix at the early stages when the cancer is easier to treat (The National Women's Health Information Center, 2006). A mammogram allows the health care practitioner to have a more detailed look at the breast to determine any abnormal growth or development in the breast tissue (The National Women's Health Information Center, 2006). Among all of the cancers, breast cancer is the most commonly diagnosed in women in the U.S. (Centers for Disease Control and Prevention, 2007).

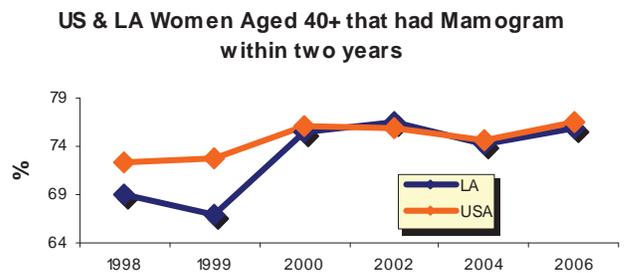
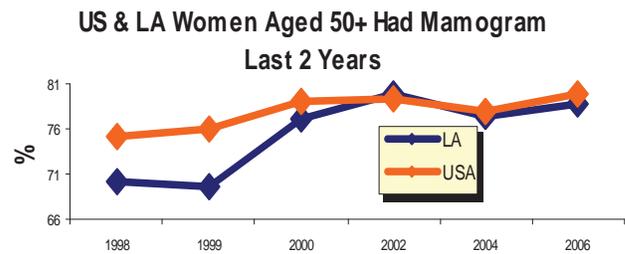
The Healthy People 2010 health objectives address both types of cancer. Objective 3-3 focuses on reducing the breast cancer death rate to 22.3 deaths per 100,000, as well as increasing the proportion of women 40 and older who receive mammograms at least every 2 years (objective 3-13) to 70%. In addition, the aim is to reduce the death rate related to cervical cancer to 2.0 deaths per 100,000 females (objective 3-4), as well as increasing the prevalence of women who receive Pap tests (objective 3-11) to 97%.

In 2006, 84.5% [95% CI: 82.7-86.2] of women in Louisiana reported that they had a Pap test in the last three years. Over three quarters (75.8%) [95% CI: 74.1-77.5] of Louisiana women age 40 years and over reported having a mammogram test in the last two years. This rate exceeds the Healthy People 2010 goal. Among Louisiana women aged 50 and older, 78.9% [95% CI: 77.0-80.8] reported having had a mammogram in the last two years.

In 1998 and 1999, Louisiana women were less likely to have recent mammograms than their US counterparts. Louisiana rates caught up to US rates in 2000, and have remained similar since then.

**Percentage of Women that have not had a mammogram within the past two years by Region. (LA 2004 BRFSS)**

Region	N	%	95% CI
1	429	23	[18.5 - 27.4]
2	377	18.9	[14.5 - 23.3]
3	393	24.3	[19.4 - 29.2]
4	406	28.3	[23.4 - 27.7]
5	401	29.1	[23.7 - 34.5]
6	418	30.9	[25.9 - 36]
7	440	29.2	[24.3 - 34]
8	463	27.5	[23 - 32]
9	438	27.1	[22.5 - 31.7]



# COLORECTAL CANCER SCREENING

**Summary & Conclusions:** In 2006, about a quarter of Louisiana residents aged 50 and older reported receiving a blood stool test within the past two years, while almost half reported ever undergoing a sigmoidoscopy or colonoscopy. Residents were more likely to receive these preventive screenings if they were older than 65 or self-employed. White residents and those with higher incomes and education levels were more likely to have received sigmoidoscopies or colonoscopies. Efforts to prevent colorectal cancer morbidity and mortality should target African American residents to increase their rate of receiving cancer screenings.

## Colorectal screening among adults, overall and by select categories Behavioral Risk Factor Surveillance System, Louisiana 2006

Characteristics+	Adults aged 50+ Had Blood Stool Test Past 2 Years++			Adults aged 50+ Had Colonoscopy~		
	Sample Size*	%	95% CI	Sample Size*	%	95% CI
<b>Total</b>	852	24.2	(22.6-25.9)	1854	49.8	(47.9-51.7)
<b>Age</b>						
50-64	431	20.8	(18.8-22.8)	973	43.5	(41.0-45.9)
65+	421	29.6	(26.9-32.3)	881	59.2	(56.3-62.1)
<b>Gender</b>						
Male	318	25.7	(23.0-24.8)	600	47.9	(44.8-51.1)
Female	534	23.0	(21.1-24.9)	1254	51.3	(49.0-53.6)
<b>Race</b>						
White	622	24.1	(22.2-25.9)	1439	53.5	(51.3-55.7)
Black	172	24.4	(20.6-28.1)	303	40.3	(35.9-44.6)
<b>Education</b>						
< High school	138	22.3	(18.4-26.1)	249	39.8	(35.1-44.4)
High school grad	277	24.5	(21.7-27.4)	581	45.9	(42.6-49.1)
Some college/grad	435	24.8	(22.5-27.1)	1021	55.7	(53.0-58.4)
<b>HH Income</b>						
<\$25,000	291	27.0	(24.0-30.1)	534	45.6	(42.2-49.0)
\$25,000-\$49,999	193	24.9	(21.4-28.5)	396	47.7	(43.7-51.8)
\$50,000+	196	21.2	(18.2-24.2)	531	55.2	(51.5-58.9)
<b>Employment</b>						
Employed	229	20.2	(17.5-22.9)	550	45.9	(42.6-49.2)
Self-employed	447	27.9	(25.4-30.4)	947	55.3	(52.6-58.1)
Unemployed	78	20.4	(15.7-25.0)	199	46.4	(40.9-51.8)
Unable to work	97	25.8	(20.6-30.9)	153	41.0	(34.8-47.2)

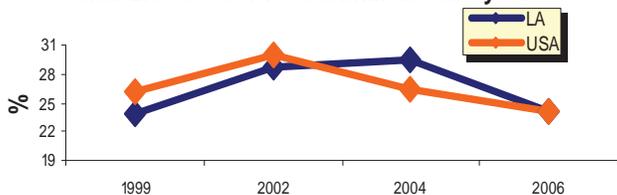
Cancer remains the second leading cause of death in the United States (Healthy People 2010, 2000). In 2000, colorectal (CRC) cancers were ranked fourth among new cancer cases (as cited in Healthy People 2010, 2000). Studies show that CRC can be reduced through early detection and treatment of polyps that may develop into malignant cancer (Healthy People 2010, 2000).

In addition, evidence shows that screening performed with blood stool tests, sigmoidoscopies and colonoscopies significantly reduces deaths caused by CRC. The Healthy People 2010 objectives regarding CRC screening aim to increase the proportion of those who receive screenings to 50% (objectives 3-12, 3-12a, and 3-12b). Thus, Louisiana has met the objective for sigmoidoscopies/ colonoscopies, but has not eliminated disparities in this area.

In 2006, 24.2% [95% CI: 22.6-25.9] of Louisiana residents aged 50 and older reported that they had a blood stool test in the past 2 years, which is comparable to the US rate of 24.1% (Healthy People 2010, 2000). More residents reported having received a sigmoidoscopy or colonoscopy test: 49.8% [95% CI: 47.9-51.7] of those aged 50 and older.

Between 1999 and 2006, rates of blood stool testing increased and then decreased in both Louisiana and the US. Sigmoidoscopy and colonoscopy saw a steady rise between 1999 and 2004, with Louisiana rates significantly lower than US rates.

**Proportion of US & LA Residents or more that had Blood Stool Test within the last year**



## FUTURE OF LOUISIANA'S BRFSS

AS THE STATE OF LOUISIANA MOVES FORWARD from the devastation of 2005, the Bureau is excited to take full advantage of the resources and information that the BRFSS brings to not only the Chronic Disease Unit but the Bureau as a whole.

The BRFSS Coordinator and other Bureau staff are using the BRFSS as a platform to participate in larger efforts such as a statewide epidemiological workgroup to not only share BRFSS information, but to work with others in the state in developing a system of integrating information to provide a more complete picture of the health of Louisiana's residents. In addition, through a U.S. Environmental Protection Agency sponsored asthma related project, BRFSS staff are working with state and community partners to develop a childhood asthma surveillance system. Prevalence data from the BRFSS will provide key information to help drive the development of this surveillance model. This project may demonstrate how environmental data can be combined with BRFSS data to investigate associations between rates of chronic disease and levels of air pollutants for instance. It may also serve as a model for using BRFSS with other environmental information such as the water quality or pesticide exposure.

The Bureau's BRFSS Coordinator has also approached an extensive group of stakeholders in the state informing them of the opportunity to include new questions specific to their healthcare delivery needs in the next BRFSS round.



With the BRFSS as the cornerstone dataset, the Bureau is developing an online information center that will include the following:

- **Prevalence Data:** Regional and/or Parish-level estimates can be compared to other geographies and grouped by selected demographics.
- **Trends Data:** Observe Regional and state-level trends in the prevalence of certain health risk behaviors.
- **Local View:** View local area estimates and statewide "QuickView" charts.
- **BRFSS Maps:** Generate maps displaying state and local level estimates.
- **Annual Survey Data:** Download the data and documentation for completed survey years.

In addition to disseminating and analyzing BRFSS data, the Bureau will soon pilot a cell phone methodology project sampling the greater New Orleans area. As previously indicated, an increasing number of adults are using only cellular telephones. Because of possible sampling validity issues and potential bias, Louisiana will conduct this pilot to not only collect additional information about the health status and behaviors of residents in the region, but also to help assess the long term cost benefits and feasibility of sampling and conducting interviews with adults on cell phones.

These efforts and more will help the Bureau and the Department better understand, communicate and address the health status and unique needs of Louisiana's people.

*For additional information about the Bureau and Louisiana's BRFSS, visit [www.pcrh.dhh.louisiana.gov](http://www.pcrh.dhh.louisiana.gov) or contact the Louisiana BRFSS Coordinator, Todd Griffin, MSPH at (225) 342-2027.*

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