



# Behavioral Risks In Delaware 2007-2008



**DELAWARE HEALTH AND SOCIAL SERVICES**  
Division of Public Health  
Health Promotion and Disease Prevention

[www.dhss.delaware.gov/dph/dpc/brfsurveys.html](http://www.dhss.delaware.gov/dph/dpc/brfsurveys.html)

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## Introduction

### BRFSS Turning Information Into Health

All data in this report are from the Delaware Behavioral Risk Factor Survey (BRFS).

The BRFS is a random-sample, telephone interview survey of Delaware adults age 18 and older. It is an ongoing survey, sampling every month and reporting data on a calendar year basis. The annual sample size is approximately 4,000, stratified by county. Percentages are weighted to population characteristics.

The survey is a cooperative program between the Delaware Department of Health and Social Services, Division of Public Health (DPH), and the U.S. Centers for Disease Control and Prevention (CDC), and is funded primarily by a CDC cooperative agreement. Telephone interviewing and data entry are conducted for DPH by the Center for Applied Demography and Survey Research (CADSR) at the University of Delaware.

All interviews are anonymous and confidential. Phone numbers are removed from the database.

The BRFS sample does not include institutionalized adults, nor does it currently include adults whose only telephone is a cell phone. All data are self-reported and subject to self-report bias. Sample size for small populations and/or low-prevalence behaviors may be inadequate for breakdowns, or may produce wide confidence intervals.

The Delaware BRFS is part of a national Behavioral Risk Factor Surveillance System (BRFSS). The survey is conducted in all 50 states, the District of Columbia, and three territories (Puerto Rico, Guam, and the Virgin Islands).

### Confidence Intervals

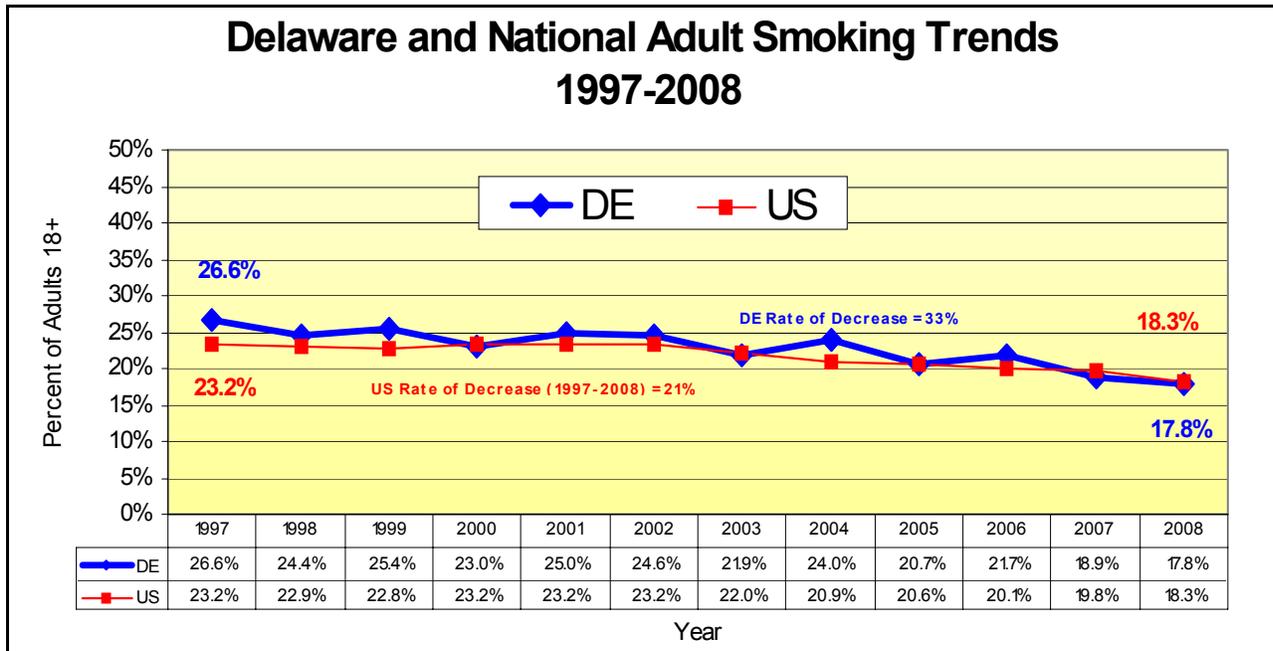
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BRFSS data are reported at a 95% confidence level, which means there is a 95% probability that the estimate is real. Prevalence estimates are accompanied by a “confidence interval,” sometimes known as the “margin of error.” The confidence interval (CI) is the range of values within which the true prevalence is likely to occur 95 times out of 100. Data items with a small number of respondents have a wider confidence interval. Data are suppressed if a cell contains a confidence interval with a half-width of 10 or greater.

**IF YOU ARE CALLED:** The Division of Public Health strongly encourages all Delaware residents — if called — to participate in this important study. Data produced by the BRFS are essential for planning and evaluating effective public health programs to help all Delawareans.



## Tobacco



Source: Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Survey, 1997-2008.

### Smoking Prevalence Reaches All-Time Low in Delaware

Smoking prevalence decreased to 17.8% among Delaware adults in 2008, the lowest smoking prevalence in Delaware since the Behavioral Risk Factor Surveillance System began in 1982.

Prevalence has been declining among both adults and youth since 1997, when a comprehensive Tobacco Prevention and Control program was initiated by the Division of Public Health and its partners in the Impact Delaware Tobacco Prevention Coalition.

- Current adult smokers: **17.8%** (Confidence Interval = 16.0-19.6%)
- Adult male smokers: **20.3%** (CI = 17.4-23.2%)
- Adult female smokers: **15.4%** (CI = 13.2-17.6%)
- Non-Hispanic white smokers: **17.9%** (CI = 15.9-19.9%)
- Non-Hispanic black smokers: **16.5%** (CI = 11.4-21.6%)
- Smoke every day: **13.4%** (CI = 11.8-15.0%)
- Smoke some days: **4.4%** (CI = 3.4-5.4%)
- Former smokers: **28.5%** (CI = 26.5-30.5%)
- Never smoked: **53.7%** (CI = 51.3-56.1%)

Among smokers, **54.6%** (CI = 48.9-60.3%) said they had tried to quit smoking during the past year. Specifically, they had stopped smoking for one day or longer in attempt to quit. This is an increase from 48% in 1997.

## Tobacco

Educational level is an important factor for cigarette smoking. Only **8.7%** (CI = 6.7-10.7%) of college graduates smoke cigarettes, compared with **26.3%** (CI = 22.4-30.2%) of adults with a high school education. Adults with low household incomes are more likely to smoke cigarettes than those with high household incomes.

The 2008 Behavioral Risk Factor Survey asked a set of questions about use of tobacco products other than cigarettes.

**13.5%** (CI = 11.7-15.3%) of the adult population said they had tried **smokeless tobacco products** such as chewing tobacco, snuff, or snus. Experimentation with smokeless tobacco products is most likely to occur among men: **24.5%** (CI = 21.4-27.6%) of men had tried one or more of these products, compared with only **3.4%** (CI = 2.4-4.4%) of women.

**3.2%** of adult Delaware men (CI = 3.1-10.5%) report that they currently use chewing tobacco, snuff, or snus. The number of adult women using smokeless tobacco daily was too small to provide an estimate in the survey.

**12.3%** of adult Delaware men (CI = 9.4-15.2%) report currently smoking **pipes, cigars, bidis, kreteks, or other tobacco products**. Only **1.7%** (CI = 0.5-2.9%) of adult women report smoking cigars, pipes, bidis or kreteks.

Snus (Swedish for snuff) is a moist smokeless tobacco, sold in small pouches that are placed under the lip against the gum. Bidis are thin hand-rolled cigarettes, often flavored, from India and Southeast Asia. Kreteks are sometimes called clove cigarettes. Imported from Indonesia, kreteks usually contain a mixture of tobacco, cloves, and other additives. Both bidis and kreteks deliver higher concentrations of nicotine, tar, and carbon monoxide than conventional cigarettes sold in the United States.

Among adults who do not smoke cigarettes, nearly **5%** (CI = 3.5-6.4%) smoke cigars, pipes or other tobacco products at least occasionally.

About **7%** (CI = 4.5-9.7%) of former cigarette smokers currently smoke pipes or cigars, at least occasionally.

### Why is smoking important?

Tobacco use is the leading underlying cause of premature disability, illness, and death in Delaware and the United States. It is the leading cause of lung cancer, and a major cause of several other cancers, heart disease, and a variety of lung diseases. About one in five deaths in Delaware is caused by tobacco use. Direct health care costs and lost productivity costs attributable to smoking in Delaware are more than \$700 million a year.

[CDC, Smoking Attributable Mortality, Morbidity, and Economic Costs (SAMMEC) study, 2004, <http://apps.nccd.cdc.gov/sammec/>]

## Tobacco

### Smoking in the Home

A majority of Delawareans report that they do not allow smoking inside their homes. Second-hand or environmental tobacco smoke is a carcinogen, and also contributes to heart attacks and a variety of lung diseases, including asthma.



- In 2008, **77.4%** (CI = 75.2-79.5%) of Delaware adults reported that they do not allow smoking anywhere inside their homes.
- Another **9.9%** (CI = 8.2-11.6%) allow smoking only in designated areas of their homes.
- Only **2.9%** (CI = 2.1-3.8%) allow smoking anywhere in their homes; but **9.8%** (CI = 8.4-11.2%) say they have no rules about smoking in their homes.

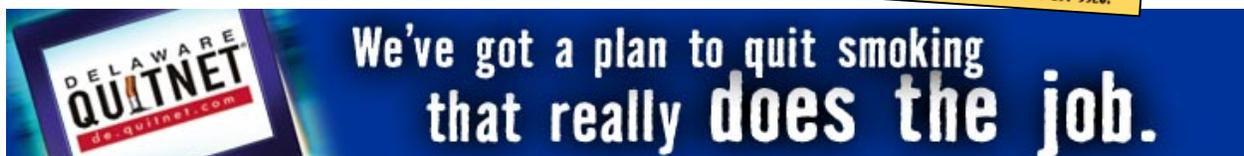
### Hispanic Smokers

The annual sample of Hispanic Delaware adults is too small to provide a valid estimate of cigarette smoking prevalence. To obtain a valid sample, the BRFSS aggregated data from three years, 2005-2007, which provided an overall sample of 16,188 adults, with a Hispanic sample of 379.

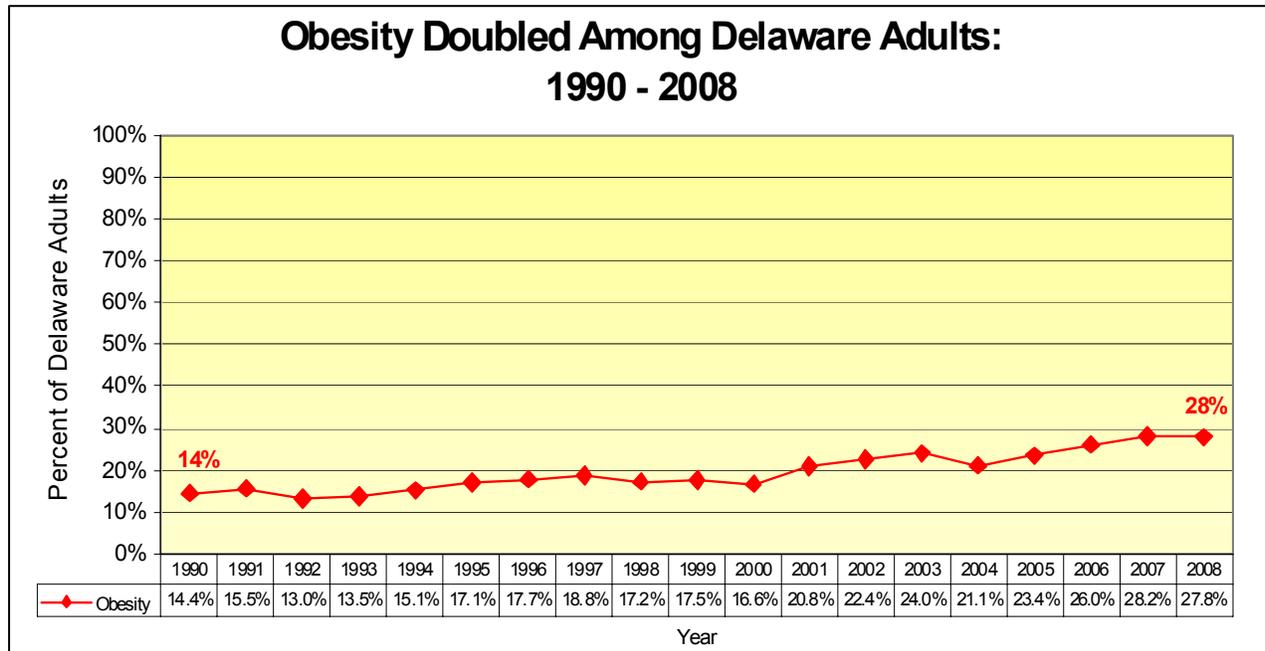
Based on this aggregated sample, smoking prevalence appeared to be slightly higher among Hispanic adults, but the differences were not statistically significant.

During the three-year period of 2005-2007, **23.5%** of Hispanic adults were cigarette smokers; **14.5%** (CI=9.5-21.4%) of Hispanic adults were every-day smokers, and **9%** (CI= 5.8-13.9%) of Hispanic adults were some-day smokers. More Hispanic adults are some-day smokers than non-Hispanic whites (4.6%) or non-Hispanic blacks (7.3%).

During the same three-year period, **22%** of adult non-Hispanic whites were cigarette smokers; and **21.9%** of adult non-Hispanic blacks were cigarette smokers.



## Obesity, Overweight, and Nutrition



Source: Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Survey, 1990-2008.

### Obesity Trend Continues Upward in Delaware

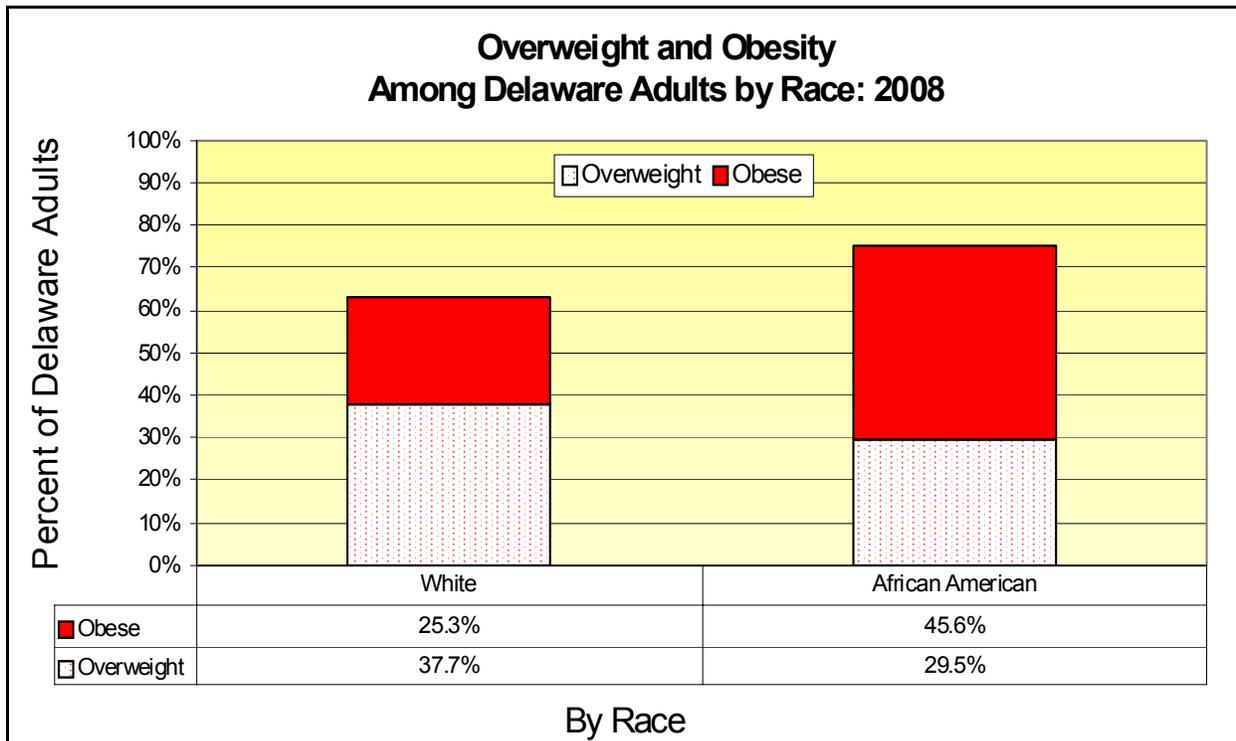
The prevalence of obesity among Delaware adults, as well as among adults in the rest of the United States, is increasing. Since 1990, the prevalence of obesity has nearly doubled — from 14.4% in 1990 to 27.8% in 2008. Obesity is measured using the Body Mass Index (BMI), a formula based on reported height and weight. Adults with a BMI between 25 and 29.9 are considered overweight, and a BMI of 30 or greater is considered obese.

- Obese Delaware adults: **27.8%** (CI=25.6-30.0%)
- Obese males: **28.7%** (CI=25.4-32.0%)
- Obese females: **26.9%** (CI=24.4-29.4%)

Obesity increases with age, until adults reach their 60s. **19.6%** (CI=11.0-28.2%) of young adults, age 18-24, are obese, compared with **34.7%** (CI=30.0-39.4%) of adults in the 45-54 age group. Among adults age 65 and older, **24.4%** (CI=21.3-27.5%) are obese. This drop-off after age 65 is likely attributable to increased mortality among obese adults from heart disease and cancer.

Education and household income also may have an impact on obesity. About **32%** (CI=23.0-41.4%) of adults with less than a high school education are obese, compared with **21.9%** (CI=19.0-24.8%) of adults with college degrees. Low-income adults have about a **34%** (CI=26.8-41.4%) prevalence of obesity, compared with **23.3%** (CI=19.8-26.8) of adults with incomes greater than \$75,000 a year.

## Obesity, Overweight, and Nutrition



Source: Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2008.

There is a significant disparity in prevalence of obesity between non-Hispanic whites and non-Hispanic blacks (see graph above). This disparity may account for the higher prevalence of obesity-related diseases such as type 2 diabetes among blacks.

A CDC study<sup>1</sup> using BRFSS data confirmed that nationwide, in the three-year period 2006-2008, “non-Hispanic blacks had the greatest prevalence of obesity, followed by Hispanics and non-Hispanic whites.” Three years of data were used to ensure an adequate sample for each state. For Delaware, the study showed 24.3% of non-Hispanic whites, 39.2% of non-Hispanic blacks, and 29% of Hispanic adults were obese.

### Overweight Adults

While obesity is a more significant contributor to health problems, being overweight also can be problematic—contributing to pre-diabetes and diabetes, and often leading to obesity.

In 2008, 36% (CI=33.8-38.2%) of Delaware adults were overweight, with a BMI between 25 and 29.9.

- Overweight adult males = 41.7% (CI=38.0-45.4%)
- Overweight adult females = 30.4% (CI=27.7-33.1%)

Combining the two categories, a majority — 63.8% — of Delaware adults are either overweight or obese.

## Obesity, Overweight, and Nutrition

### Fruit and Vegetable Consumption

Questions about fruit and vegetable consumption are asked in odd-numbered years, and provide an indication of the quality of eating habits of Delaware adults. The *Dietary Guidelines for Americans* from the U.S. Department of Health and Human Services recommends a diet high in “nutrient dense” foods like fruits and vegetables. Between 5 and 9 servings a day of a wide variety of fruits and vegetables are recommended.



In 2007, only **21.4%** (CI=19.2-23.6%) of Delaware adults reported consuming 5 or more servings of fruits and vegetables a day. Women were slightly more likely to eat the recommended servings than men.

- Males who eat 5 or more servings a day: **19.4%** (CI=15.9-22.9%)
- Females who eat 5 or more servings a day: **23.2%** (CI=20.8-25.6%)
- Non-Hispanic whites: **20.7%** (CI=18.7-22.7%)
- Non-Hispanic blacks: **22.9%** (CI=13.5-32.3%)
- 18-24 year olds: **19.3%** (CI=11.9-26.7%)
- 65 and older: **24%** (CI=20.9-27.1%)
- Less than high school education: **14%** (CI=8.5-19.5%)
- College graduates: **26.7%** (CI=23.8-29.6%)

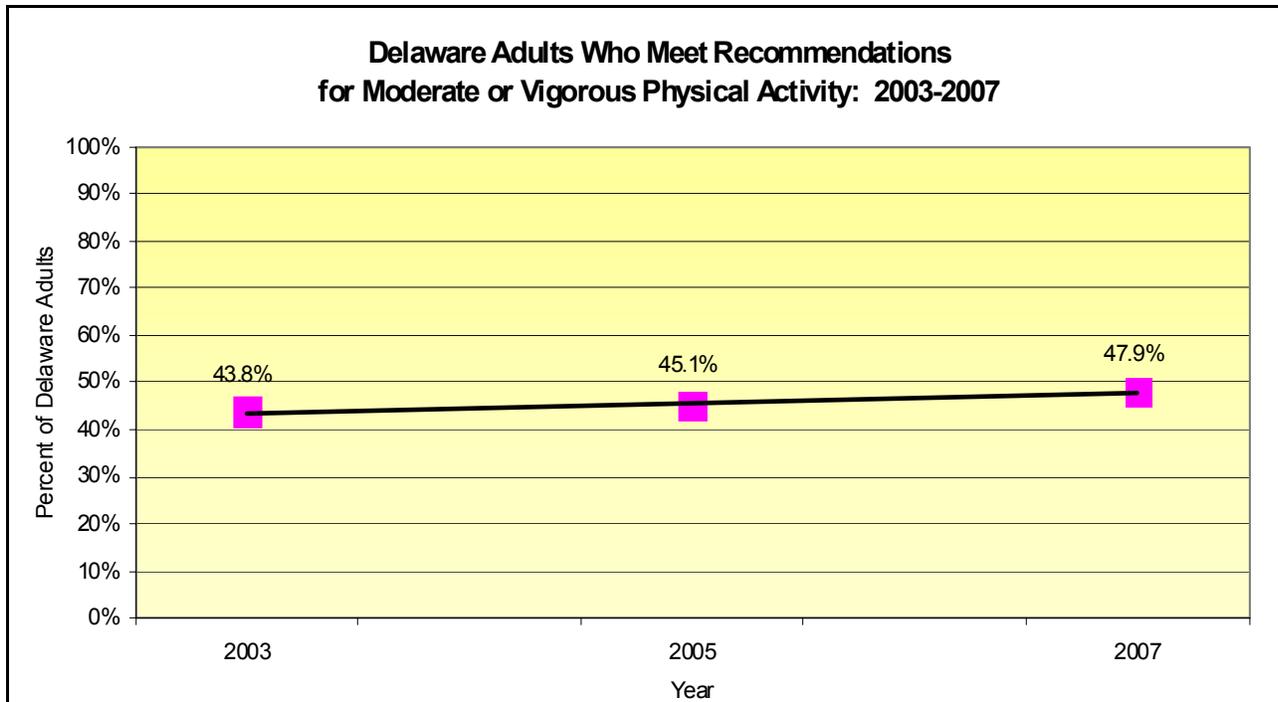
### Why is obesity important?

Obesity and its related risk factors – poor nutrition and lack of physical activity – are the second leading underlying cause of premature death and disability in Delaware and the U.S. Obesity is a major risk factor for type 2 diabetes, heart disease and stroke, as well as endometrial, breast, and colon cancer. Obesity also increases one’s risk of liver and gallbladder disease, sleep apnea, respiratory problems, osteoarthritis, and gynecological problems.



## Physical Activity

Physical activity questions also are asked only in odd-numbered years, so the most recent BRFSS data is from 2007.



Source: Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2003-2007.

There has been a slight increase in adult physical activity in Delaware during the past five years (see graph above). This is a hopeful sign; however, a majority of Delaware adults still get either no physical activity or insufficient activity to meet recommendations.

The BRFSS uses Centers for Disease Control and Prevention (CDC) recommendations for moderate and physical activity. The survey asks a set of questions about types, duration, and frequency of physical activity. A formula is then used to determine if respondents meet CDC recommendations for "moderate" or "vigorous" activity, or meet both sets of recommendations.

"Moderate physical activity" is defined as 30 or more minutes a day of moderate-intensity physical activity on 5 or more days of the week. "Vigorous" is defined as 20 minutes or more a day of vigorous-intensity activity on 3 or more days of the week.

New *Physical Activity Guidelines for Americans* were published in 2008 by the U.S. Department of Health and Human Services. However, the 2007 BRFSS used the definitions above, based on the previous guidelines.

## Physical Activity

52.1% of Delaware adults report either no physical activity or insufficient activity:

- 11.2% (CI=9.4-13.0%) reported no physical activity.
- 40.9% (CI=38.5-43.3%) reported activity levels which do not meet guidelines.

47.9% of Delaware adults get regular exercise that meets the CDC recommendations for either “moderate” or “vigorous” physical activity.

- 20.4% (CI=18.6-22.2%) meet CDC recommendations for moderate physical activity.
- 13.5% (CI=11.7-15.3%) meet recommendations for vigorous physical activity; and
- 14% (CI=12.2-15.8%) meet both sets of recommendations.

As might be expected, levels of vigorous physical activity decrease with age. Again in 2007, vigorous activity by age group showed:

- 23.6% (CI=15.6-31.6%) of 18-24 year olds,
- 17.9% (CI=11.8-24.0%) of 25-34 year olds,
- 15.1% (CI=11.4-18.8%) of 35-44 year olds,
- 11% (CI=8.1-13.9%) of 45-54 year olds,
- 10.2% (CI=7.3-13.1%) of 55-64 year olds; and only
- 6.2% (CI=4.4-8.0%) of people 65 and older.

The age distribution for people who meet recommendations for both vigorous and moderate activity paralleled vigorous activity.

Moderate activity, on the other hand, tends to increase slightly with age:

- 12.8% (CI=6.9-18.7%) of the 18-24 age group,
- 17.6% (CI=13.1-22.1%) of the 25-34 group,
- 20.3% (CI=16.4-24.2%) of the 35-44 group,
- 21.5% (CI=17.8-25.2%) of the 45-54 group,
- 22.8% (CI=18.9-26.7%) of the 55-64 group, and
- 25.2% (CI=21.9-28.5%) of the 65 and older age group.

Men are significantly more likely to engage in vigorous physical activity. 17.7% (CI=14.6-20.8%) of men reported vigorous activity, compared to 9.7% (CI=7.7-11.7%) of women. Women are slightly more likely to engage in moderate physical activity, but the difference is not statistically significant.

While household income doesn't correlate with moderate physical activity, vigorous activity appears to be less common among adults in the lower income groups. Only 7.9% (CI=3.4-12.4%) of adults in the \$15,000-25,000 group reported vigorous activity, compared to 17.5% (CI=12.8-22.2%) of people earning between \$50,000 and \$75,000.

African-Americans are slightly more likely to engage in vigorous activity than are whites. Whites, however, are more likely to engage in moderate activity.

## Alcohol Abuse

The Delaware BRFs measures two alcohol-related risk factors, chronic heavy drinking, and acute or binge drinking. Binge drinking is defined in the survey as adult males who have 5 or more drinks on one occasion, or adult females who have four or more drinks on one occasion in the past month. Chronic heavy drinking is defined as adult men having more than two drinks daily or adult women having more than one drink daily.

Only 5.7% (CI=4.3-7.1%) of Delaware adults reported heavy drinking levels during the past month.

Men are more likely to be heavy drinkers than women, and young adults are most likely to report heavy drinking. There is little difference by educational level, and adults with higher household income levels are more likely to be heavy drinkers than low-income adults.

Heavy Drinking Among Delaware Adults, 2008		
Demographic Group	Prevalence	Confidence Intervals
Total	5.7%	4.3-7.1%
Male	7.2%	4.8-9.6%
Female	4.4%	3.0-5.8%
White	6.7%	5.1-8.3%
Black	2.5%	0.5-4.5%
Hispanic	5.3%	0.0-11.2%
Young Adult (18-24)	13.5%	5.5-21.5%
Age 25-34	5.1%	2.6-7.6%
Age 35-44	4.4%	2.6-6.2%
Age 45-54	5.5%	3.5-7.5%
Age 55-64	4.7%	2.7-6.7%
Age 65 and older	3.5%	2.1-4.9%

Source: Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2008.



### Why is alcohol abuse important?

Alcohol abuse is the third leading preventable cause of premature death and injury in the United States. Only tobacco use and obesity kill more people. Alcohol abuse is a risk factor for intentional and unintentional injuries, including auto crashes, as well as for chronic diseases such as cirrhosis of the liver and certain cancers. (McGinnis, Foege, *et al.*, "Actual Causes of Death in the United States," *JAMA*, 1993;270:2207-2212)



## Alcohol Abuse

Patterns of binge drinking are similar, with men more than twice as likely to report binge drinking. Young adults are more likely to report binge drinking than older adults, and whites are more likely to report binge drinking than blacks.

Binge Drinking Among Delaware Adults, 2008		
Demographic Group	Prevalence	Confidence Intervals
Total	17.9%	15.7-20.1%
Male	25.3%	21.4-29.2%
Female	11.1%	8.9-13.3%
White	19.1%	16.6-21.6%
Black	12.8%	7.1-18.5%
Hispanic	**	**
Young Adult (18-24)	**	**
Age 25-34	27.2%	20.7-33.7%
Age 35-44	18.1%	14.4-21.8%
Age 45-54	18.4%	14.5-22.3%
Age 55-64	10.4%	7.1-13.7%
Age 65 and older	3.1%	1.9-4.3%

Source: Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2008.

\*\*Data not available due to small sample size, and CI half width >10.

Among those who reported binge drinking, 45.1% (CI=37.8-52.4%) say they were drinking in their own residence. Another 23.6% (CI=16.5-30.7%) reported binge drinking at another person's home. The remainder said they were drinking in a restaurant, banquet hall, bar, club, or other public place.

### Alcohol Use

A slight majority of Delaware adults drink alcoholic beverages at least occasionally. In the 2008 survey, 57.2% (CI=54.8-59.6%) of all adults said they had at least one alcoholic drink, such as beer, wine or liquor, in the past month. Men were more likely to drink than women: 64.7% (CI=61.1-68.1%) of men compared with 50.4% (CI=47.5-53.3%) of women.

There is a significant difference by race. About 60% (CI=57.7-62.7%) of white adults report drinking alcoholic beverages, compared to only 44% (CI=37-50.8%) of black adults.

## Safety

### Drinking and Driving

Slightly less than 5% of adults who reported drinking during the past month acknowledged that they had driven when they had “perhaps too much to drink.” Those who admitted drinking and driving were predominantly young and male.

Although this is a small percentage of adults, it represents an estimated 18,800 people who were drinking and driving in the past month.



### Seat Belt Use

Good news continues about seat belt usage: **95.8%** (CI=94.6-97.0%) of Delaware adults report using their seat belts “always or nearly always.”

**89.1%** (CI=87.3-90.9%) of adults said they always wear their seat belts, the highest prevalence recorded to date by the Delaware BRFS. Only 3.1% of Delaware adults say they “sometimes or seldom” wear their seat belts; and 1.1% report “never” wearing them.

In 2006, 85.5% (CI=83.7-87.3%) of Delaware adults said they “always” used their seat belts. Seat belt use prevalence was only 52% when the BRFS first measured it in 1991. Usage has increased since Delaware passed its first seat belt law in 1991, and the primary offense law in 2003.

### Falls

Falls are a significant source of injury, especially for older adults; **13.5%** of Delaware adults age 45 and older reported one or more falls during the preceding three months. About one-third of those falls resulted in an injury, defined by the questionnaire as a “fall that caused you to limit your regular activities for at least a day or go to see a doctor.”

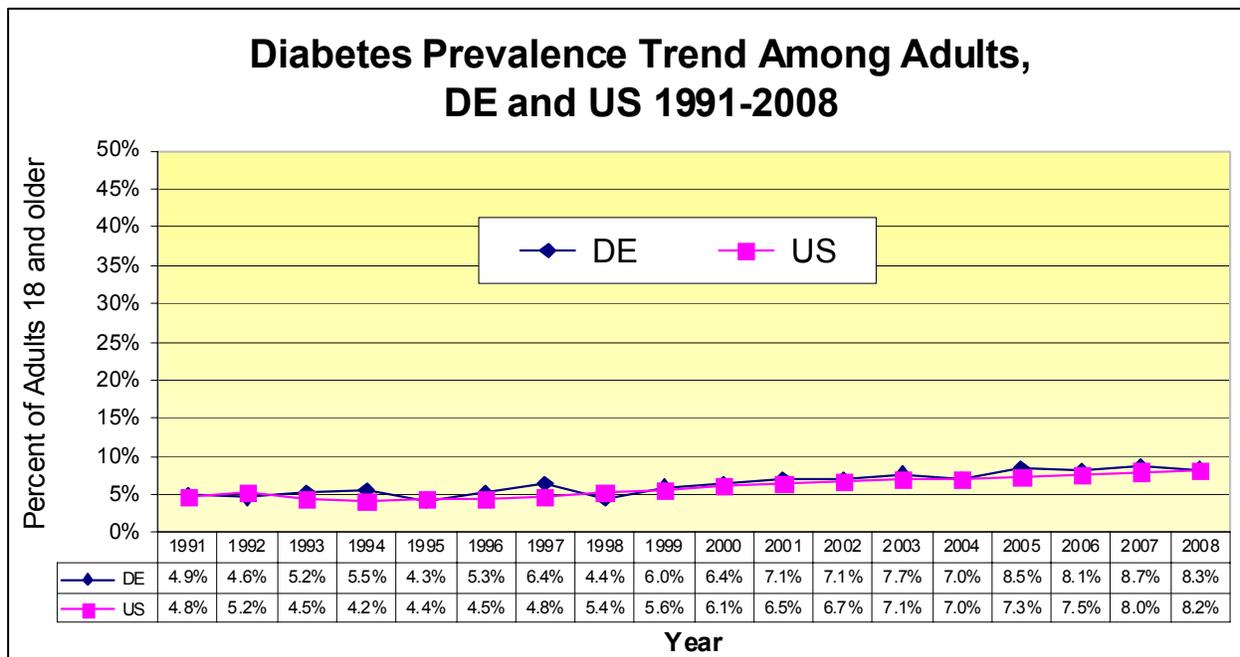
## Chronic Diseases: Diabetes Prevalence

The Delaware BRFSS asked about prevalence of diabetes and asthma in the 2008 survey. It also asked a set of questions about heart disease and stroke.

### Diabetes

In 2008, **8.3%** (CI=7.3-9.3%) of Delaware adults reported they had been told by a doctor they have diabetes. An additional **1.1%** (CI=0.5-1.7%) of women reported having been told they had gestational diabetes during pregnancy.

The graph below shows the trend of increasing prevalence of diabetes in both Delaware and the United States. In Delaware, diabetes prevalence increased from 4.9% in 1991 to 8.3% in 2008.



Source: Delaware Health & Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2008.

Diabetes prevalence is higher among men than women, and higher among African Americans than among non-Hispanic whites. Obesity prevalence also is higher among men and African Americans, and obesity is a major risk factor for type 2 diabetes. The breakdown by gender and race:

- Male = **8.7%** (CI=6.9-10.5%)
- Female = **7.9%** (CI=6.5-9.3%)
- Black = **11.2%** (CI=7.7-14.7%)
- White = **7.9%** (CI=6.7-9.1%)
- Hispanic = **6.4%** (CI=0-14%)

## Chronic Diseases: Asthma Prevalence

While only **2.3%** (CI=0.7-3.9%) of 25-34 year old adults have been told they have diabetes, the prevalence increases steadily with age:

- Age 35-44 = **5%** (CI=2.5-7.5%)
- Age 45-54 = **9.4%** (CI=6.5-12.3%)
- Age 55-64 = **12.4%** (CI=9.3-15.5%)
- Age 65 and Older = **18.7%** (CI=16.0-21.4%)

Additional information about diabetes in Delaware is available in a report, *The Burden of Diabetes in Delaware: 2009*, available on the Division of Public Health web site at:

<http://www.dhss.delaware.gov/dhss/dph/dpc/diabetesburdenrpt.html>

### Asthma

In 2008, **13.6%** (CI=11.8-15.4%) of Delaware adults reported ever being told by a doctor or health professional that they had or have asthma. Respondents who have ever been told are then asked, "Do you still have asthma?" **9.6%** (CI=8.0-11.2%) of respondents currently have asthma.

Women are more like to report current asthma than men, and African Americans are slightly more likely to have current asthma than whites.



The breakdown by gender and race:

- Male = **6.6%** (CI=4.1-9.1%)
- Female = **12.4%** (CI=10.4-14.4%)
- White = **8.7%** (CI=7.1-10.3%)
- Black = **11%** (CI=6.5-15.5%)

Young adults are more likely to report current asthma than older adults. People with low incomes and lower educational levels also are more likely to have current asthma.

Current asthma, by age:

- Age 18-24 = **13.2%** (CI=5.6-20.8%)
- Age 25-34 = **14.2%** (CI=8.7-19.7%)
- Age 35-44 = **7.9%** (CI=5.4-10.4%)
- Age 45-54 = **8%** (CI=5.6-10.4%)
- Age 55-64 = **9.3%** (CI=6.9-11.7%)
- Age 65 and Older = **6.5%** (CI=4.7-8.3%)

## Chronic Diseases: Heart Disease and Stroke

The 2008 BRFSS questionnaire included three questions about cardiovascular disease:

1. Have you ever been told by a doctor or health professional that you had a heart attack, also called a myocardial infarction?
2. Have you ever been told you have angina, or coronary artery disease?
3. Have you ever been told you had a stroke?

**4.5%** (CI=3.7-5.3%) of Delaware adults reported having had, and survived, a heart attack. More men than women report having had a heart attack: **5.6%** of men (CI=4.2-7.0%) compared to **3.4%** of women (CI=2.6-4.2%). There were no statistically significant differences by race or ethnicity. However, people age 65 and older reported by far the highest prevalence at **15.7%** (CI=13.2-18.2%).

**4.7%** (CI=3.9-5.5%) of adults in the state reported being told that they have angina or coronary artery disease. Although not statistically significant, again men reported slightly higher prevalence of diagnosed coronary artery disease: **5.2%** (CI=4.0-6.4%) compared to **4.3%** (CI=3.3-5.3%) among women. The age distribution was similar to reported heart attacks. Non-Hispanic whites were most likely to report diagnosed coronary artery disease, followed by Hispanics and African Americans:

- Whites = **5.5%** (4.5-6.5%)
- Hispanics = **2.9%** (CI=0.0-5.8%)
- Blacks = **2.1%** (CI=0.9-3.3%)

Note that the sample is very small for Hispanics and African Americans. Differences in prevalence may be a result of many factors, including access to care and recognition of symptoms.

**2.9%** (CI=2.3-3.5%) of Delaware adults reported having been told they had a stroke. There were no statistically significant differences by gender or race. Age again is a significant factor. While less than **2%** of adults under 45 reported having a stroke, **3.3%** (CI=2.1-4.5%) of adults 55-64 and **8.2%** (CI=6.0-10.4%) of adults over 65 reported a stroke.



### Why is this so important?

Heart disease is the disease which kills the most people in Delaware and the United States. According to the *Delaware Vital Statistics Annual Report 2006*, published by the Division of Public Health, the leading causes of death by disease in 2006 were:

1. heart disease,
2. cancers, and
3. stroke.

Many people do not recognize the symptoms of heart attack or stroke. This is especially true of women, for whom the symptoms can be somewhat different than men's symptoms.

Major risk factors for heart disease and stroke include tobacco use, obesity, lack of physical activity, poor nutrition, diabetes, and stress.

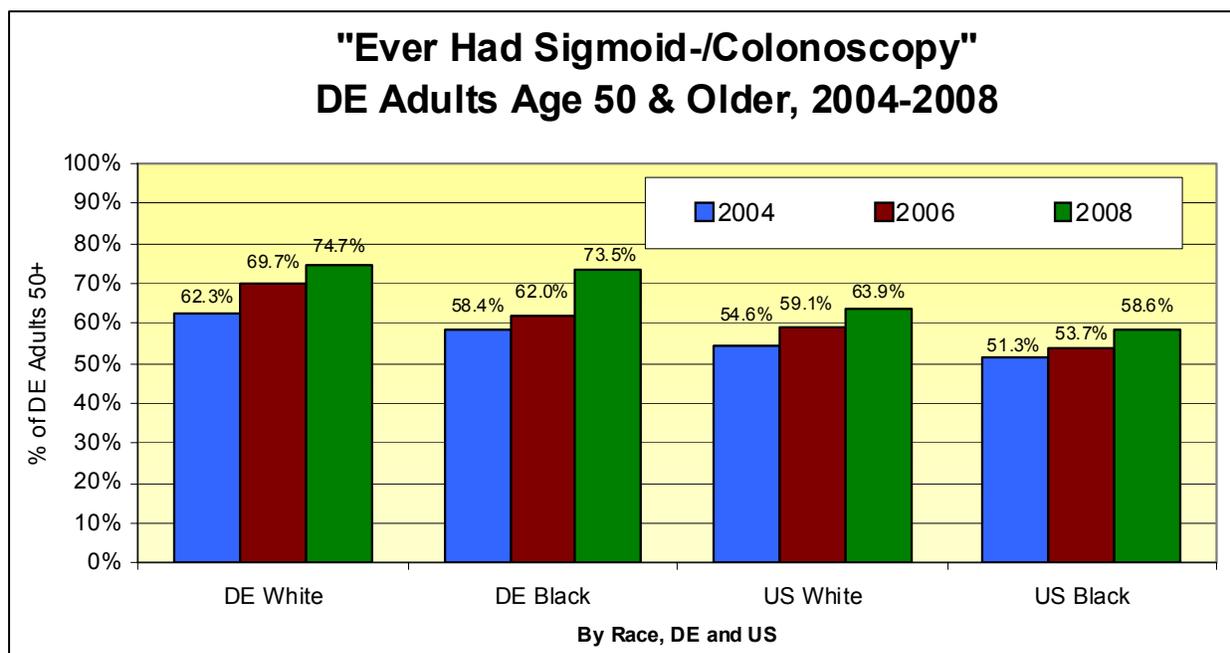
## Cancer Screening Tests

Addressing high, but declining, mortality rates from cancer is a high priority of the Delaware Cancer Consortium and the Division of Public Health.

The BRFS regularly measures the prevalence of recommended cancer screening tests. Results from the survey over the past several years show that programs working to increase screening, especially among minority populations, are achieving success.

### Colorectal Cancer Screening

Delaware efforts to increase colorectal cancer screening are having dramatic success. In 2008, **74.3%** (CI=71.9-76.7%) of Delaware adults age 50 and older reported they have had a sigmoidoscopy or colonoscopy to detect colon cancer. Colonoscopy is recommended for everyone 50 and older. Delaware now **leads the nation** in prevalence of colonoscopy screening, moving up from third place in 2006 (BRFSS).



Source: Delaware Health & Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2004-2008.

As the graph above shows, prevalence of sigmoidoscopy/colonoscopy has been increasing in Delaware since 2004. Most importantly the disparity between African Americans and whites has diminished significantly, and the Delaware black screening prevalence is significantly higher than the U.S. white rate.

There was no statistically significant difference between men and women for “ever had a sigmoidoscopy/colonoscopy.” The prevalence was significantly higher among people over 55. From age 50-54, the prevalence was **57.4%** (CI=50.7-64.1%), while for those 55-64 it was **78.9%** (CI=75.4-82.4%), and for those 65 and older the prevalence was **79.4%** (CI=76.5-82.3%).

## Cancer Screening Tests

### Attitudes About Colonoscopy

In 2007, the Delaware BRFSS added some questions to determine the public's attitudes about getting a colonoscopy. The results were very encouraging.

- 54% of adults 50 and older said their doctors had talked to them in the past year about the importance of colorectal cancer screening.
- 20.2% of adults 50 and older said they wanted the test.
- Another 65.8% said they will have a colonoscopy if their doctor says it's needed.
- Only 6.7% of adults over 50 said they did not want the test.

### Prostate Screening for Men

In 2008, 57.1% (CI=53.2-61.0%) of Delaware men age 40 and older reported having a Prostate-Specific Antigen (PSA) test in the past two years. The PSA test is a screening tool for prostate cancer.

The prevalence of PSA testing was highest among men 65 and older. By age:

- Age 40-44 = 27.8% (CI=17.8-37.8%)
- Age 45-54 = 44.8% (CI=37.2-52.4%)
- Age 55-64 = 71% (CI=63.4-78.6%)
- Age 65 + = 79.3% (CI=74.0-84.6%)

In 2008, 13.7% (CI=9.4-18%) of respondents in the 65 and older group said they had been told they have prostate cancer.

The sample of African American men from 2008 was too small to provide an accurate estimate. However, in 2007 the PSA screening prevalence among black males was slightly higher than for white males. This is important, because the incidence of prostate cancer is higher among blacks, and the most recent

*Delaware Cancer Incidence and Mortality Report* says Delaware's black prostate cancer rate was significantly higher than the comparable U.S. rate.<sup>2</sup>

Delaware's screening rate is above the national average. The U.S. prevalence for men 40 and older who had a PSA test in the past two years was 54.7% in 2008.

#### Why is screening important?

Cancer is the second leading cause of death in Delaware and the nation.

Delaware's 2001-05 cancer incidence rate of 504.2 per 100,000 was significantly higher than the U.S. rate of 471.1 per 100,000. Fortunately, as a result of collaborative efforts by the State, the Delaware Cancer Consortium, the Division of Public Health, and other partners, the state's cancer rates are decreasing.

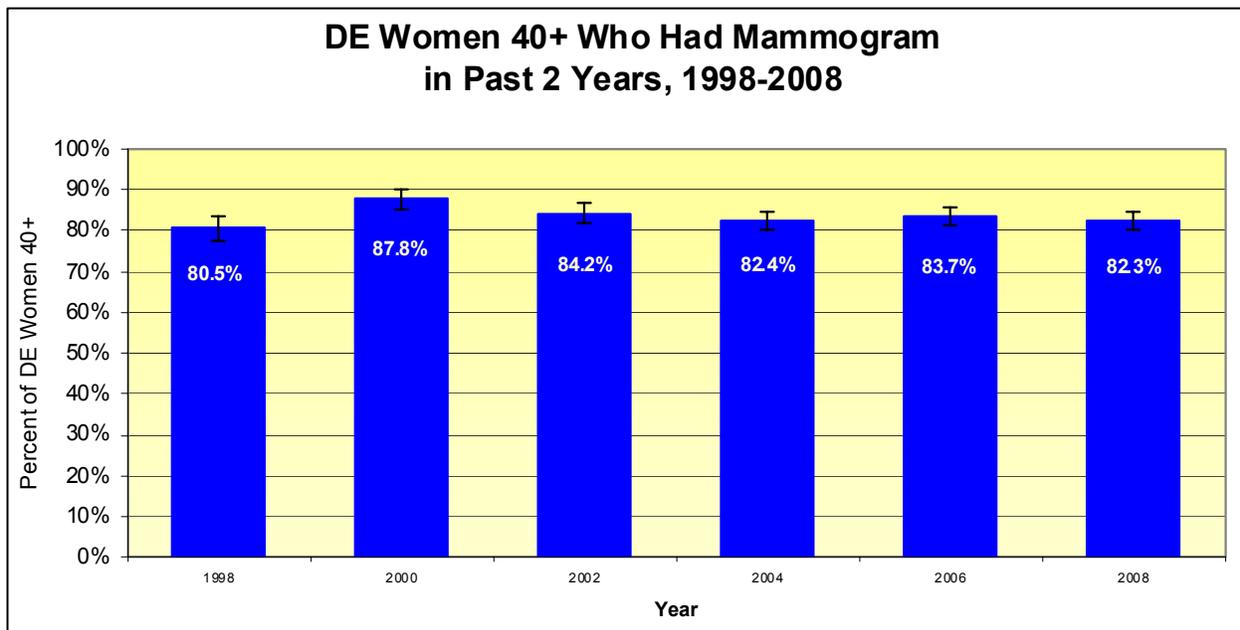
Delaware's five-year average cancer incidence rate decreased 5.3% from 1991-95 to 2001-05. During the same period, the U.S. cancer incidence rate decreased 4.4%. In Delaware, the percentage decrease in all site cancer incidence rates was larger for African Americans compared to Caucasians. (*Cancer Incidence and Mortality Report*, see endnote 2)

Screening is an essential part of the fight against cancer, because certain cancers (breast, cervical, prostate, and colorectal, for example) can be treated most effectively if found early. Screening on the recommended schedule can help find cancer early - and save lives.

## Cancer Screening Tests

### Mammography for Women

Mammography is a test to check for breast cancer in women. **82.3%** (CI=80.1-84.5%) of Delaware women age 40 and older report having a mammogram in the past two years. The graph below shows that this prevalence has stayed about the same for the past decade. The highest prevalence of mammography in the past two years was among women in the 55-64 age group, among whom **90%** (CI=85.6-92.2%) had a mammogram on schedule.



Source: Delaware Health & Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 1998-2008.

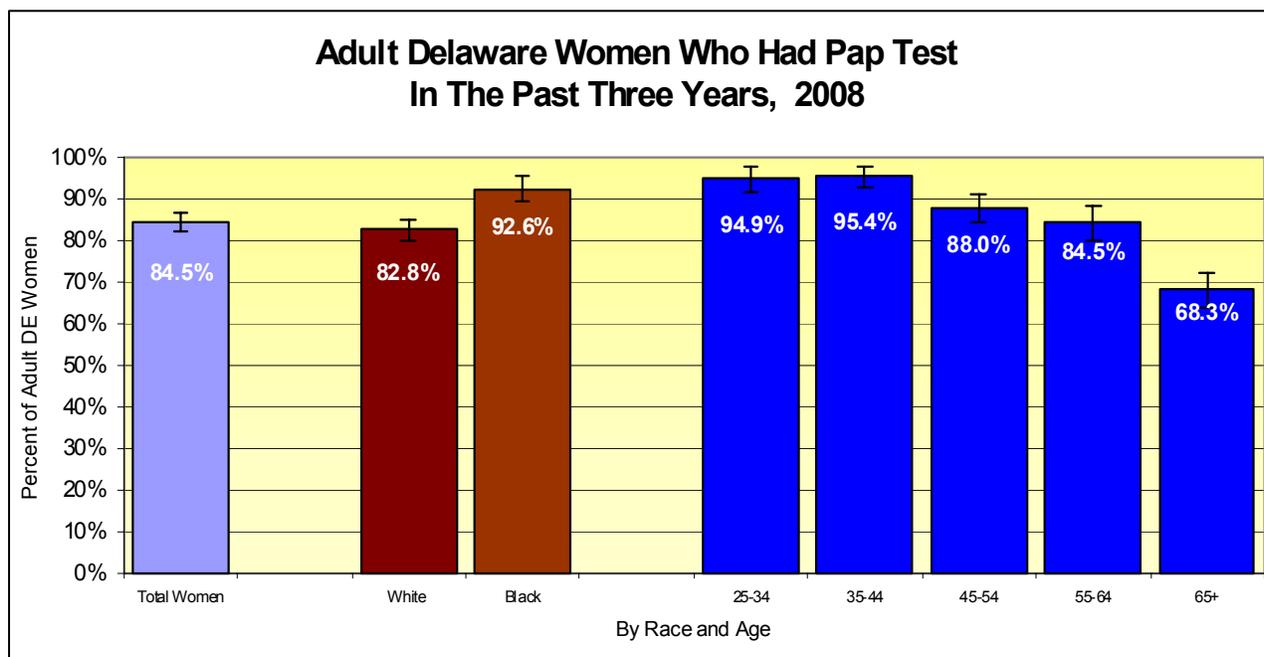
African American women were more likely to have had a mammogram in the past two years than non-Hispanic white women. **86.2%** (CI=79.7-92.7%) of black females over 40 had a mammogram in the past two years, compared to **81.2%** (CI=78.8-83.6%) of white females over 40. Women with higher levels of education and higher income levels were more likely to have had a mammogram in the past two years.

### Pap Testing for Women

Adult women should get regular Pap tests for cervical cancer as recommended by their doctors. In Delaware, **84.5%** (CI=82.3-86.7%) of women age 18 and older have had a Pap test in the past three years.

African American women have a higher prevalence of getting Pap tests than white women. In 2008, **92.6%** (CI=89.5-95.7%) of black females reported getting a Pap test in the past three years, compared with **82.8%** (CI=80.3-85.3%) of white females.

## Cancer Screening Tests



Source: Delaware Health & Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2008.

The graph above shows the percentage of women, by race and age group, whose Pap tests are current.

A higher percentage of women respond positively to the question, “Have you ever had a Pap test?” **94.7%** (CI=92.9-96.5%) of all adult women in Delaware say they have had a Pap test at some time. The prevalence is high for both non-Hispanic white females (**94.9%**) and non-Hispanic black females (**96.2%**). The lowest prevalence is among Hispanic females, of whom **90.5%** (CI=80-100%) report ever having a Pap test.

## Influenza Immunization

Influenza (“flu”) shots are recommended for anyone with a chronic disease and for the elderly and young children. Although the flu is often perceived as a mild disease, it can be fatal to the very young, the elderly, or people with chronic diseases.

In 2008, **69.6%** (CI=66.1-73.1%) of adults 65 and older reported receiving an influenza shot in the past year.

Among all adults, **38.8%** (CI=36.6–41.0%) had a flu shot in the past year. While there was no statistically significant difference between men and women, African Americans were less likely to get flu shots than whites: **40.4%** (CI=38.0-42.8%) of whites compared to **34.6%** (CI=28.1-41.1%) of blacks.

## HPV Vaccine

The Delaware BRFs asked questions for the first time in 2008 about vaccine to prevent Human Papilloma Virus (HPV).

According to *HPV Vaccine Information for Clinicians* from CDC<sup>3</sup>, “Approximately 20 million people are currently infected with genital Human Papilloma Virus (HPV) in the United States. As many as half of these infections are among adolescents and young adults, ages 15 through 24. HPV is so common that most sexually active adults become infected at some point in their lives.”

Of the more than 40 types of HPV that infect humans, most infections are asymptomatic. However, certain types can cause cervical cancer, according to the CDC<sup>4</sup>. Other HPV types can cause genital warts and, rarely, respiratory tract warts in children.

- In 2008, **9.2%** (CI=5.9-12.5%) of adult Delaware women reported getting the HPV vaccine. Because of the small sample, no racial breakdowns are available, but the respondents who received the vaccine were predominantly age 18-34.

CDC recommends routine vaccination for 11 and 12 year-old girls, and says the vaccine series can be started at 9 years of age. Catch-up vaccination is recommended for 13 through 26 year-old females who have not yet received or completed the vaccine series.<sup>5</sup>

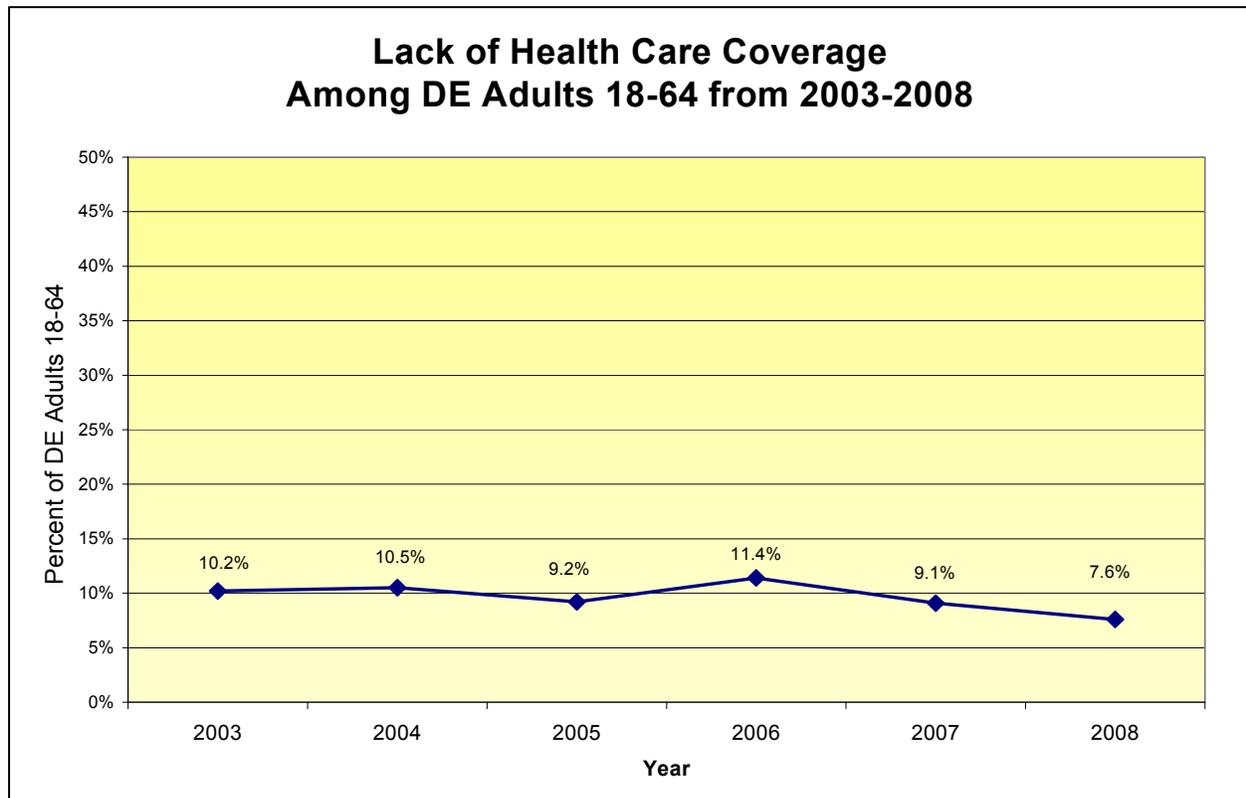
- A random child selection module was added to the survey in 2008 to gather information about children who received the HPV vaccine. Parents responded about the selected children. **27.5%** (CI=19.9-35.1%) of the selected girls had received HPV vaccine.

## Health Status 2008

- **86.9%** (CI=85.5-88.3%) of adults said they had “good or better health.”
- **13.1%** (CI=11.7-14.5%) of adults said their health was “fair or poor.”
- Less than 10% of adults under 45 reported fair or poor health.
- **23.4%** (CI=20.5-26.3%) of respondents over 65 reported fair or poor health.
- **33.3%** (CI=23.7-42.9%) with less than a high school education reported fair or poor health, compared to **7.5%** (CI=5.7-9.3%) of college graduates.
- Low income adults were more likely to say they had fair or poor health. **30.7%** (CI=24.0-37.4%) of those in the \$15,000-24,999 income group, compared to **4.8%** (CI= 3.2-6.4%) of those with incomes greater than \$75,000.
- African Americans were slightly more likely to report fair or poor health: **16.5%** (CI=11.8-21.2%) for blacks, compared to **12.8%** (CI=11.2-14.4%) for whites, and **7.5%** (CI=1-14%) for Hispanics.

## Health Care Coverage

Adults over 65 are covered by Medicare, so the BRFs looks at health insurance coverage of adults age 18-64. In 2008, **7.6%** (CI=6.0-9.2%) of adults in that age range said they did not have health insurance coverage. The graph below shows the trend for the past six years, during which lack of health insurance hovered around 9 to 10% most of the time. The biggest impact of the current recession will probably occur in the forthcoming 2009 data.



Source: Delaware Health & Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2003-2008.

The largest prevalence by age without health insurance is in the 18-24 year age group. **12.2%** (CI=4.2-20.2%) of 18-24-year-olds were without health insurance in 2008.

Household income and education level are major factors:

- **24.6%** (CI=15.4-33.8%) of adults 18-64 earning less than \$15,000 a year have no health insurance;
- **20.4%** (CI=12.8-28.0%) of adults 18-64 in the 15,000-24,999 group,
- **8.7%** (CI=4.2-13.2%) of adults 18-64 in the 25,000-34,999 group,
- **11.2%** (CI=6.7-15.7%) of adults 18-64 in the 35,000-49,999 group,
- **6.7%** (CI=3.6-9.8%) of adults 18-64 in the 50,000-74,999 group, and only
- **2.1%** (CI=0-4.3%) of adults 18-64 earning more than \$75,000 a year.
- **17.7%** (CI=8.7-26.7%) of adults 18-64 with less than a high school education lack health insurance, compared to **2.8%** (CI=1.6-4.0%) of college graduates.

## Health Care Coverage

Respondents also were asked, “Was there a time in the past 12 months when you needed to see a doctor, but could not because of cost?”

**9.7%** (CI=8.3-11.1%) of all adults said there was a time in the past year they could not afford to go to a doctor.

As with health insurance coverage, respondents with low incomes and high school or less education were more likely to report inability to see a doctor due to cost. Women were more likely than men to give this response: **11.9%** (CI=9.9-13.9%) of women compared to **7.3%** (CI=5.3-9.3%) of men.

## Disability

The BRFSS includes two questions about health problems or impairments that limit activities. The first question is: “Are you limited in any way in any activities because of physical, mental, or emotional problems?”

A follow-up question asks, “Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?”

In 2008, **20.3%** (CI=18.5-22.1%) of Delaware adults reported activity limitations as a result of a physical, mental, or emotional problem.

- **18.6%** (CI=15.7-21.5%) of men
- **21.9%** (CI=19.7-24.1%) of women
- **21.2%** (CI=19.2-23.2%) of non-Hispanic whites
- **19.1%** (CI=13.8-24.4%) of non-Hispanic blacks
- **9.5%** (CI=2.8-16.2%) of Hispanics

Age is clearly a factor. Reported disability increases with age:

- **8.9%** (CI=3.4-14.4%) of 18-24 year olds
- **13.7%** (CI=8.2-19.2%) of 25-34 year olds
- **15.7%** (CI=12.0-19.4%) of 35-44 year olds
- **20.2%** (CI=16.5-23.9%) of 45-54 year olds
- **29.3%** (CI=25.2-33.4%) of 55-64 year olds
- **32.7%** (CI=29.2-36.2%) of those 65 and older

Although educational level did not appear to make a difference, respondents with lower incomes were more likely to report disabilities.



## Disability

With the follow-up question, the BRFs estimates that **7.6%** (CI=6.6-8.6%) of all adults in Delaware have disabilities which require them to use special equipment.

Again, women were more likely to report needing special equipment than men: **9.2%** (CI=7.8-10.6%) of women, compared to **6%** (CI=4.4-7.6%) of men.

Age was again a major factor:

- 1.8% (CI=0-4.3%) age 18-24
- 2.5% (CI=0.7-4.3%) age 25-34
- 5.1% (CI=2.7-7.5%) age 35-44
- 7.8% (CI=5.1-10.5%) age 45-54
- 10.8% (CI=8.4-13.2%) age 55-64
- 16.8% (CI=14.1-19.5%) age 65 and older

People with low income and high school or less education are more likely to have a disability requiring the use of special equipment.

## Testing for HIV / AIDS

Among adults age 18-64, **46%** (CI=43.3-48.7%) report having been tested for the Human Immunodeficiency Virus (HIV) which causes AIDS. The chart below breaks down HIV/AIDS testing for 2008 by gender, race, and age:

<b>"Ever Been Tested" for HIV/AIDS, Adults 18-64, in 2008</b>		
<b>Demographic Group</b>	<b>Prevalence</b>	<b>Confidence Interval</b>
Male	<b>41.1%</b>	36.8-45.4%
Female	<b>50.8%</b>	47.3-54.3%
Non-Hispanic White	<b>40.2%</b>	37.1-43.3%
Non-Hispanic Black	<b>70.2%</b>	63.7-76.7%
Hispanic	<b>**</b>	<b>**</b>
18-24	<b>35.6%</b>	25.6-45.6%
25-34	<b>68%</b>	61.9-74.1%
35-44	<b>60.7%</b>	55.8-65.6%
45-54	<b>35%</b>	30.7-39.3%
55-64	<b>23.7%</b>	19.8-27.6%

Source: Delaware Health and Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2008.

\*\*Data not available due to small sample size, and CI half width >10.

## Emergency Preparedness: 2007

A special module of questions about emergency preparedness was asked in 2007. The questions asked about large-scale disasters or emergencies, which might leave people isolated in or displaced from their homes for 3 days or more. Such emergencies could include hurricanes, tornados, ice storms, or man-made disasters such as blackouts.



Highlights from the module include:

- **24.3%** (CI=22.1-26.5%) of adults said they feel “well prepared.”
- **19.4%** (CI=17.6-21.2%) said they were “not prepared at all.”
- **22.8%** (CI=20.6-25.0%) have a written disaster plan for how they would leave their homes in case of a large-scale emergency that requires evacuation.
- **60.2%** (CI=58.0-62.4%) said their households have a three-day supply of water for everyone who lives in their household. A 3-day supply of water was defined as one gallon per person per day.
- **85.6%** (CI=84.0-87.2%) said their households have a three-day supply of non-perishable food for everyone who lives there. Non-perishable food was defined as food that does not require refrigeration or cooking.
- **79.6%** (CI=77.6-81.6%) said they have a three-day supply of any prescription medicines for each person needing them.
- **78.9%** (CI=77.1-80.7%) said their household has a working, battery-operated radio, with working batteries, if the electricity goes out.
- **95.7%** (CI=94.7-96.7%) said their household has a working flashlight and working batteries if the electricity goes out.
- If public authorities announced a mandatory evacuation due to a large-scale disaster or emergency, **94.6%** (CI=93.6-95.6%) of respondents said they would evacuate.
- Of those who said they would *not* evacuate, most cited concerns about leaving property or pets behind, or lack of trust in public officials.
- Most respondents - **83.3%** (CI=81.7-84.9%) - said cell phones would be their main method of communicating with relatives and friends in case of an emergency.
- Asked how they would get information from authorities, most responded radio (49.6%) or television (34.9%). The remainder said they would rely on the Internet, neighbors, or other means.

## How Delaware Compares To The National Median

<b>Prevalence of Selected Risk Factors: DE v. US, 2008*</b>			
<b>Risk Factor</b>	<b>DE</b>	<b>CI</b> Confidence Interval	<b>US</b> Median
Cigarette Smoking	17.8%	16.0-19.6%	18.4%
Obesity	27.8%	25.6-30%	26.7%
Eat 5 or More Fruits/Veggies a Day (*2007)	21.4%	19.2-23.6%	24.4%
Recommended Physical Activity (*2007)	47.9%	45.5-50.3%	49.5%
Binge Drinking	17.9%	15.7-20.1%	15.6%
Chronic Heavy Drinking	5.7%	4.3-7.1%	5.1%
Prevalence of Diabetes	8.3%	7.3-9.3%	8.3%
Prevalence of Current Asthma	9.6%	8-11.2%	8.8%
Ever Had a Heart Attack	4.5%	3.7-5.3%	4.2%
Told You Have Coronary Artery Disease	4.7%	3.9-5.5%	4.3%
Ever Had Colonoscopy (50 and older)	74.3%	71.9-76.7%	62.2%
Prostate PSA Test Past 2 Years (Men 40+)	57.1%	53.2-61%	54.8%
Mammogram Past 2 Years (Women 40+)	82.3%	80.1-84.5%	76%
Pap Test in Past 3 Years (Women)	84.5%	82.3-86.7%	82.9%
Influenza Shot in Past Year (65 and Older)	69.6%	66.1-73.1%	71.1%
Self-Reported "Fair or Poor" Health	13.1%	11.7-14.5%	14.4%
No Health Insurance (Age 18-64)	7.6%	6-9.2%	16.7%
Disability: Limited Activity	20.3%	18.5-22.1%	20.6%
Disability: Need Special Equipment	7.6%	6.6-8.6%	7.2%

\*Except where risk factors are labeled 2007.

Source: Delaware Health & Social Services, Division of Public Health, Behavioral Risk Factor Survey (BRFS), 2007-08. National median data: CDC, Behavioral Surveillance Branch, BRFSS, 2007-2008

## Additional BRFs Information

This report provides highlights of the Delaware Behavioral Risk Factor Survey from 2008, and some additional information from 2007 and long-term trends.

Additional BRFs results are available on the Division of Public Health web site. Google “Delaware BRFs” or go directly to:

<http://www.dhss.delaware.gov/dph/dpc/brfsurveys.html>



Questionnaires from 2007 and 2008 are available on the web site, as well as data summaries from previous years' surveys. You can find 2007 and 2008 frequency tables on our web site. There are also special reports, and additional information about methodology and the national system.

The page includes a link to an interactive CDC database, from which you can find most data from the BRFs for Delaware, the nation, and other states:

<http://apps.nccd.cdc.gov/brfss/>

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Endnotes:

<sup>1</sup> “Differences in Prevalence of Obesity Among Black, White, and Hispanic Adults – United States, 2006-2008,” *Morbidity and Mortality Weekly Report* (CDC: 58:27, 740-744).

<sup>2</sup> Delaware Division of Public Health, *Cancer Incidence and Mortality in Delaware*, June 2009, Document Control #35-05-20/09/05/20.

<sup>3</sup> Centers for Disease Control and Prevention (CDC), “HPV Vaccine Information for Clinicians.” CDC Web site: <http://www.cdc.gov/STD/hpv/STDFact-HPV-vaccine-hcp.htm>

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.