

STATISTICAL NEWS

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Half of Adult Asthmatics & Diabetics Get Flu Shots

Only One-Third Under Age 50 with These Conditions Get a Flu Shot

About one-half (54 percent, ± 3) of all adults who are either asthmatic or diabetic and about one-third (36 percent, ± 5) of asthmatic or diabetic adults younger than 50 years of age were estimated to receive flu shots in Pennsylvania during 2002. Adults who are asthmatic or diabetic and contract influenza often experience additional health-related complications. These complications include pneumonia, myositis (inflammation of muscles), cardiovascular or pulmonary disease, and interruption of renal function.

Age appears to be a determining factor in adults, who are either asthmatic or diabetic, for receiving a flu shot. Percentages for asthmatic or diabetic adults who received a flu shot are significantly higher for older adults than for younger adults. Seventy-seven percent (± 4) of adults age 65 and older and 56 percent (± 6) age 50-64, who are asthmatic or diabetic, received a flu shot in 2002. No specific demographic factor other than age (such as sex, education, income, or race/ethnicity) appears to have any significant influence on the total percent-

A significantly higher percentage of diabetic adults (63) received flu shots, compared to asthmatic adults (46) in 2002.

age of adults who were asthmatic or diabetic and received a flu shot in 2002.

No significant differences in percentage were seen for adults who were either asthmatic or diabetic and received flu shots when comparing the years of 1999, 2001, or 2002. Fifty percent (± 5) and 48 percent (± 5) of asthmatic or diabetic Pennsylvania adults received flu shots in 1999 and 2001, respectively. Asthmatic and diabetic adults aged 18 to 49 had percentages for receiving flu shots of 35 (± 7) in 1999 and 29 (± 7) in 2001. Adults ages 50-64 with asthma or diabetes had percentages of 45 (± 11) in 1999 and 55 (± 9) in 2001 while adults aged 65 and older with either of these con-

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C-Section Rate Continues to Rise to Record High

Figures Show Dramatic Increases Even Among Low-Risk Mothers

Cesarean section delivery rates are still on the rise, even among low-risk mothers giving birth for the first time, and have reached a record high in 2002. Throughout most of the 1980s, cesarean section delivery rates increased dramatically, from 15.6 percent in 1980 to 22.5 in 1989. The highest rate in the 1980s (24.4 percent) occurred in 1987. However, between 1990 and 1997, the proportion of cesarean sections decreased somewhat, declining to 19.3 percent by 1997.

VBAC delivery (vaginal birth after cesarean section) was promoted as a safe and viable method in the 1990s in contrast to the accepted norm of "Once a c-section, always a c-section". But then in 1998, the percentage of cesarean section deliveries began to rise again to 19.6 and continued to rise, to 24.8 percent in 2002, the highest rate recorded between 1980 and 2002.

The proportion of cesarean sections for low-risk first-time mothers is following the same pattern — increasing

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...in 1998, the percentage of cesarean section deliveries began to rise again...to 24.8 percent in 2002, the highest rate recorded between 1980 and 2002.

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DEPARTMENT OF
HEALTH

Edward G. Rendell, Governor
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Secretary of Health

Cigarette Sales to Minors Remains Low in PA

Federally-Mandated Synar Survey Tracks Attempts by Minors to Buy

Most Pennsylvania retailers are not selling cigarettes to minors, according to a study conducted by the Department of Health in July and August of 2003. It was estimated that only 11 percent ($\pm 2\%$) of the 13,457 Pennsylvania outlets licensed to sell cigarettes and accessible to minors violated the law and sold to persons under the age of 18 years.

These results are based on the federally-mandated Synar survey. In this survey, persons under the age of 18 attempt to purchase cigarettes at cigarette outlets which have been selected by a random process. These surveys have been conducted each year since 1996. Following the initial survey, the federal government set targets for the violation rates for each state. The data table on the next page shows Pennsylvania's original targets in the second column. The targets were revised following the 1999 survey (see third column). The downward trend of the estimates of the rate, at which all stores violate the law against selling tobacco to minors, is shown in the fourth column. Please note that there was an upward bounce in the estimated rate in 1999.

Interpretation of the estimates of the rate of compliance for all outlets requires

**...(in 1996)...
about half of
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**...in July and August
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the age of 18.**

the use of a statistical technique. Because the small sample of outlets inspected in the survey was chosen with probability methods, there is a known probability that the estimate accurately describes all outlets. The fifth column in the data table shows the result of the application of the statistical technique. This is the range of possible rates for all stores which is consistent with the estimate, at a probability of 95 percent.

These ranges, or "confidence intervals," are also displayed in the bar chart on the next page. Several things are evident, simply by examining the ranges and whether the ranges overlap or not.

- A very wide confidence interval reflects the use of a sampling design in 1996 which was not well suited to this survey. In spite of the poor design, it is clear that about half of Pennsylvania vendors were breaking the law at that time.
- The confidence intervals for the period 1997-98 do not overlap either the 1996 estimates or the 1999 estimates. Compliance with the law improved for that two-year period, but non-compliance increased again in 1999.

- Compliance returned to the 1997-98 range in 2000 and 2001.

- The highest points of the ranges for 2002 and 2003 were several percentage points below the range for any previous estimates.

This history, as shown by examination of confidence intervals, corresponds directly with changes that occurred in Pennsylvania's tobacco prevention efforts. Following the 1999 "bounce-back", increasing emphasis was placed on enforcement. The state developed improved methods of contracting with local enforcement agencies to perform inspections and issue citations where warranted.

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prevention efforts.**

The lower levels of non-compliance shown in the bar chart for 2002 and 2003 were preceded by legislation which changed the entire landscape of tobacco prevention and control in Pennsylvania. Act 77 of 2001 channeled 12 percent of the annual tobacco master settlement payment (\$41.4 million in SFY 2001-2002, \$52 million in SFY 2002-2003) into prevention and cessation programs, including counter marketing, development of a state youth anti-to-

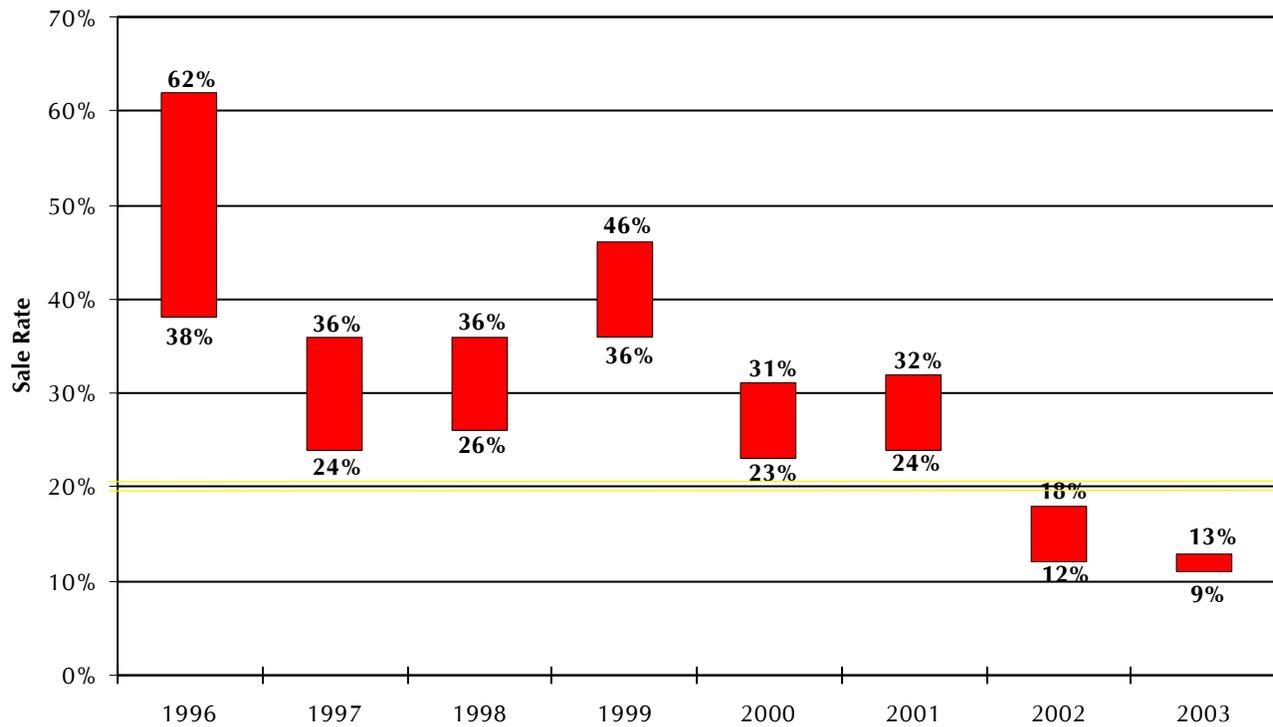
bacco campaign, merchant education, and enforcement. Seventy percent of the tobacco prevention and cessation money now funds the efforts of community-based primary contractors working in every county to implement comprehensive tobacco control programs. Among the tasks performed by these contractors are three unannounced enforcement inspections of each outlet per year. Over 26,000 enforcement checks were completed in state fiscal year 2002-03.

Act 112 became effective August 9, 2002. This law restricted vending machines from locations accessible to minors, created increased fines for clerks and retailers, introduced retailer license suspension/revocation provisions, and created a fine structure for minors who purchase or attempt to purchase tobacco.

The line in the bar chart indicating the 20 percent level of non-compliance is highlighted because states which fail to remain below that line become liable for substantial penalties assessed against their federal funds for substance abuse prevention and treatment. Pennsylvania's very substantial decline in non-compliance in 2002 came just in time to avoid those penalties and to put the state in the company of most other states, which are now effectively addressing the issue of sales to minors.

For federal statistics, go to http://www.samhsa.gov/news/newsreleases/031210nr_synar.htm. For questions regarding state data, please contact the Bureau at 717-783-2548.

**Range of 95% Confidence Intervals for Estimated Rates of Cigarette Sales to Minors by Tobacco Outlets
Pennsylvania Synar Survey, 1996-2003**



**Original and Revised Target Rates, Estimated Rates and 95% Confidence Intervals
Pennsylvania Synar Survey, 1996-2003**

<u>Year</u>	<u>Original Target Rate</u>	<u>Revised* Target Rate</u>	<u>Estimated Rate</u>	<u>95% Confidence Interval</u>
1996	Baseline	n/a	50%	± 12%
1997	42%	n/a	30%	± 6%
1998	31%	n/a	31%	± 5%
1999	25%	30%	41%	± 5%
2000	20%	29%	27%	± 4%
2001	20%	25%	28%	± 4%
2002	20%	20%	15%	± 3%
2003	20%	20%	11%	± 2%

*Revised 3/8/00

Note: All rates and errors are rounded to the nearest percent.

C-Section Rate Continues to Rise to Record High...

steadily in recent years, from 16.8 percent in 1997 to 22.1 percent in 2002 among Pennsylvania residents. Low-risk is defined as full-term (37 or more weeks gestation), singleton, not breech or malpresentation. The national Healthy People 2010 (HP2010) Objective #16-09a is to decrease the percent of low-risk first-time mothers giving birth by cesarean section to 15 percent.

A further review of Pennsylvania's cesarean section rates for low-risk first-time mothers between 1998 and 2002 by race, ethnicity, educational status, and age also shows rather consistent increases among most of these demographic groupings. A discussion of these findings follows.

The cesarean section rates for whites and blacks between 1998 and 2002 have generally increased while the rates for Asians/Pacific Islanders and Hispanics have shown no obvious trends.

Race/Ethnicity of Mother: The cesarean section rates for whites and blacks between 1998 and 2002 have generally increased while the rates for Asians/Pacific Islanders and Hispanics have shown no obvious trends. (Please note that Hispanics can be of any race.) There was a slight decrease for blacks, Asians/Pacific Islanders, and Hispanics be-

The national Healthy People 2010 objective is to decrease the percent of low-risk first-time mothers giving birth by cesarean section to 15 percent.

tween 1998 and 1999. However, there was a considerable increase among Asians/Pacific Islanders between 2000 and 2001, from 16.0 to 21.9.

The rates for whites have consistently increased, from 17.2 in 1998 to 22.0 in 2002. Among black mothers, there has been a significant increase, from 18.6 in 1998 to 23.5 in 2002. The cesarean section rates among Asians/Pacific Islanders has fluctuated between 16.0 (2000) and 21.9 (2001) since 1998.

The 1998-2002 annual rates for Hispanics have also fluctuated; however, their 2002 rate of 20.8 was a rather sharp increase from the 17.3 recorded in 2001. In 2002, among the four race/ethnic groups, none of the cesarean section rates is close to the national HP2010 goal of 15. The cesarean section rate for Asians/Pacific Islanders is the only one to slightly decrease between 2001 (21.9) and 2002 (20.5).

Education of Mother: The percentage of low-risk first-time cesarean sections by education of the mother shows that mothers aged 20+ with at least some college have the highest rate for 2002. The percentage for births to mothers with less than a high school education

was below the HP2010 goal in 1998 (14.0) but has increased to 18.2 in 2002.

The 2002 percentage for mothers with less than a high school education is closer to the HP2010 goal, compared to the percentage for high school graduates (24.1) and mothers with at least some college education (24.4). However, the cesarean section rates have been on the increase since 1998 for all three educational groups, with the sharpest increase seen among the best educated mothers (at least some college). All three education groups are moving further away from meeting the HP2010 goal of 15 percent.

(Cesarean section delivery rates by educational status show)...the sharpest increase among the best educated mothers (at least some college).

Age of Mother:

In 2002, among low-risk first-time mothers, the oldest mothers (ages 35+) had the highest percentage of cesarean section deliveries (38.4) — over two and a half times higher than the lowest rate for any other age group which was 14.5 for mothers ages 15-19. Deliveries to mothers ages 20-24 involved a cesarean section rate of 18.3 in 2002, compared to 22.8 percent for mothers ages 25-29 and 27.6 percent for mothers ages 30-34.

The cesarean section de-

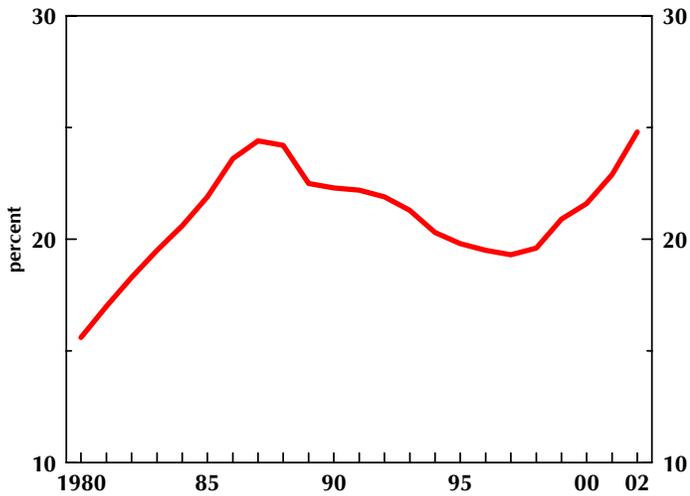
livery rates for all age groups increased between 1998 and 2002. The oldest (ages 35+) low-risk first-time mothers had the largest increase between 1998 and 2002, from 30.5 in 1998 to 38.4 percent in 2002. Mothers ages 30-34 and those under age 15 had the next largest increases, respectively. The 2002 cesarean section rates for the under 15 and 15-19 age groups are below or near the HP2010 goal of 15 percent. However, if recent increases continue, these groups will also not meet that national objective for 2010.

The charts on the next page present visual displays of the cesarean section delivery trends in Pennsylvania. If you have any questions or would like additional information on cesarean section deliveries, please contact the Bureau of Health Statistics and Research at 717-783-2548.

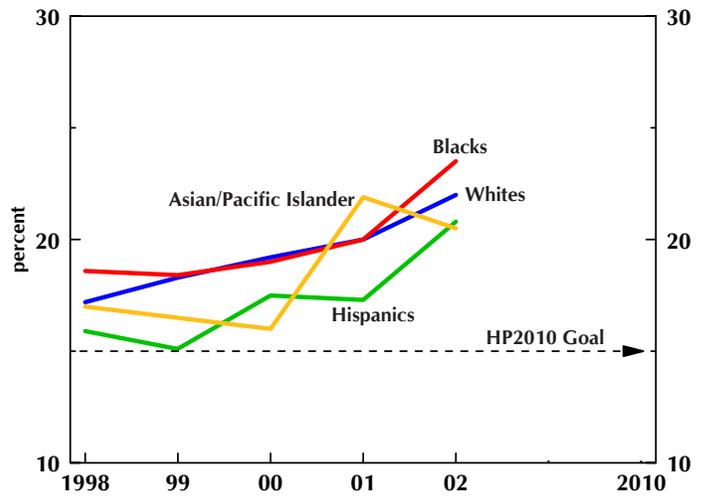
A large volume of cesarean section delivery statistics, charts, and maps for the state and all counties can also be produced with our new interactive web tool, EpiQMS, at www.health.state.pa.us/stats.

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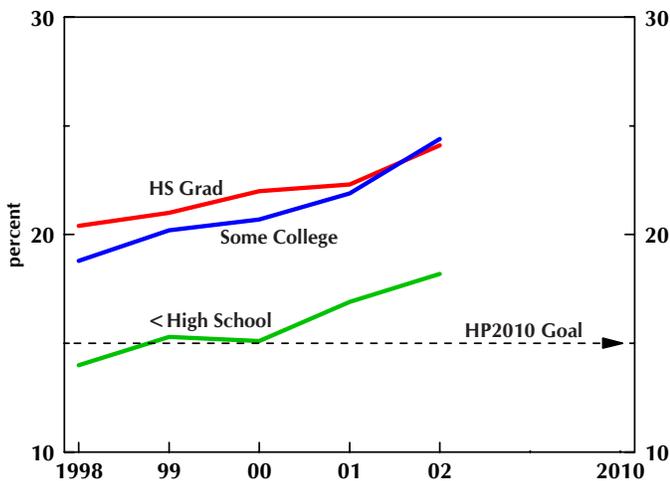
**Cesarean Section Delivery Rate per 100 (Percent)
Pennsylvania Resident Live Births, 1980-2002**



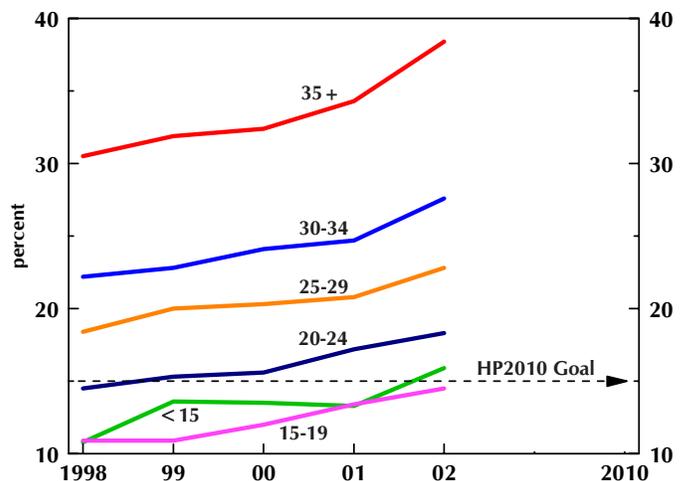
**Cesarean Section Delivery Rate per 100 (Percent)
By Race and Hispanic Origin of
Low-Risk First-Time Mothers
Pennsylvania Resident Live Births, 1998-2002**



**Cesarean Section Delivery Rate per 100 (Percent)
By Education of Low-Risk First-Time Mothers Ages 20 +
Pennsylvania Resident Live Births, 1998-2002**



**Cesarean Section Delivery Rate per 100 (Percent)
By Age of Low-Risk First-Time Mothers
Pennsylvania Resident Live Births, 1980-2002**



NOTE: Low-risk is full-term (37 or more weeks gestation), singleton, not breech or malpresentation.

Half of Adult Asthmatics & Diabetics Get Flu Shots...

ditions had percentages of 75 (± 8) in 1999 and 68 (± 8) in 2001 for receiving flu shots.

A significantly higher percentage of diabetic adults (63 ± 4) received flu shots, compared to asthmatic adults (46 ± 4) in 2002. Similar results were seen in 1999 and 2001. Diabetic adults had significantly higher percentages of $63 (\pm 7)$ and $57 (\pm 7)$ in 1999 and 2001 respectively, compared to their asthmatic counterparts (39 ± 8 in 1999 and 40 ± 7 in 2001), for receiving a flu shot.

Between 1999 and 2002, there were no significant differences in the annual percentages for diabetic or asthmatic adults receiving flu shots. All data for this article were obtained from the Pennsylvania

Many more recommendations for influenza shots are now being made including flu shots for asthmatics and diabetics of all ages.

Behavioral Risk Factor Surveillance System survey (see box on the right). Results from the 1999, 2001, and 2002 surveys are also displayed in the graph below.

It has historically been recommended that adults aged 65 and older should receive an influenza shot. This age recommendation has recently been extended to include

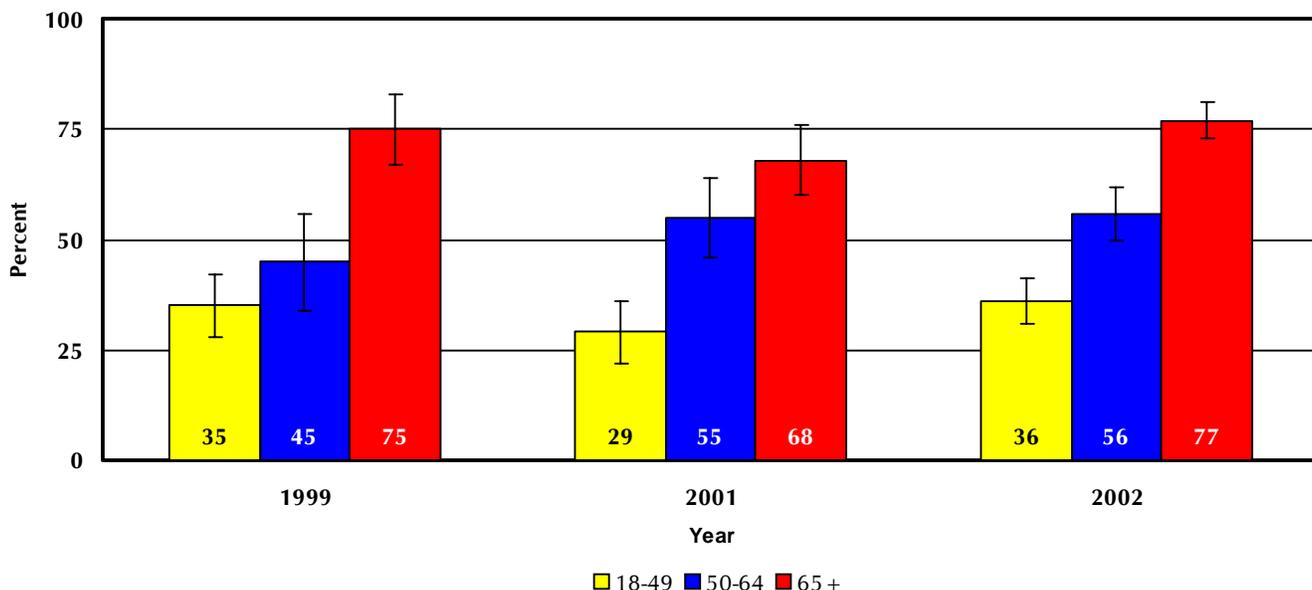
adults ages 50-64. Many more recommendations for influenza shots are now being made including flu shots for asthmatic and diabetic adults of all ages. They have been designated as target groups for vaccination by the Centers for Disease Control and Prevention (CDC). These recommendations can be seen in the CDC

article *Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP)*. MMWR 2003; 52(No. RR-8): 8.

If you have any questions or would like additional statistics, please contact the Bureau of Health Statistics and Research at 717-783-2548.

The **Behavioral Risk Factor Surveillance System (BRFSS)** is a public health surveillance system that is conducted in Pennsylvania and in all other states with support from the Centers for Disease Control and Prevention (CDC). Its purpose is to collect data on risk behaviors linked to chronic disease, injury, and infectious diseases as well as preventive health practices supportive of community health. The BRFSS survey consists of telephone interviews using randomly generated telephone numbers to determine the households contacted. The survey contains a core set of questions provided by CDC to gather comprehensive, standard information nationwide.

**Percent of Asthmatic or Diabetic Adults Obtaining Influenza Immunization
By Age, Pennsylvania 1999, 2001 and 2002**



NOTE: \perp denotes 95% confidence interval

Update: Healthy People 2010 Objectives

Focus Area 19 - Nutrition and Overweight

19-01 - Increase % healthy weight adults (ages 20+).....HP2010 Target: 60%

19-02 - Reduce % obese adults (ages 20+).....HP2010 Target: 15%

Healthy Weight Adults:

The percent of healthy weight adults (ages 20+) has not changed much between 1998 and 2002 according to the Pennsylvania Behavioral Risk Factor Surveillance System (BRFSS) annual sample surveys of adults in the state. The 2002 percentage of 39 was also recorded in 1998. The same can be said for whites, blacks, males and females.

Percentages of healthy weight adults were much lower for blacks (27 in 2002) and males (31), compared to whites (40) and, especially, females (47).

The Healthy People 2010 goal is set for 60 percent. Of the groups shown here, only females seem within reach of that goal. However, no trends were seen among any of the four groups.

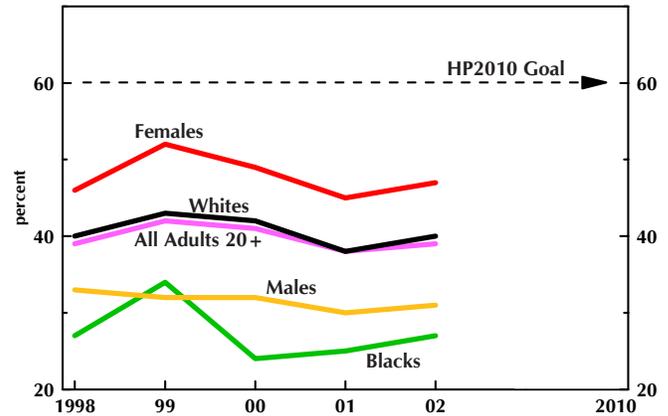
Obese Adults:

In contrast to the healthy weight percentages, the percentages of obese adults in Pennsylvania between 1998 and 2002 do show a trend. Unfortunately, it is a bad trend with percentages for all adults and by race and sex consistently on the increase. In 2002, 24 percent of adults (ages 20+) were considered obese, up from 19 percent in 1998.

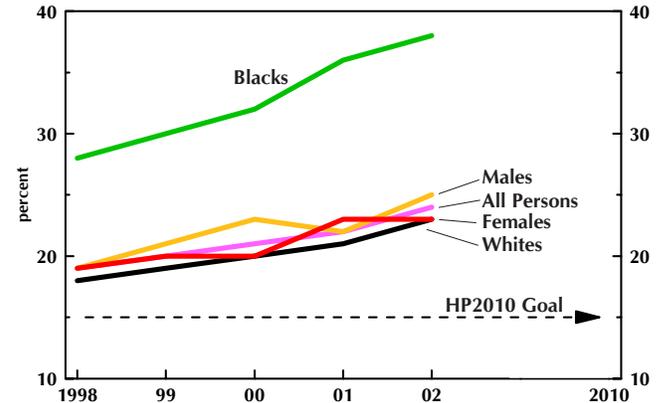
The percentages for black adults were consistently and significantly higher than for whites, males and females – 38 percent in 2002, compared to 25 percent for males and 23 percent for both whites and females.

The national Healthy People 2010 goal is 15 percent. In Pennsylvania, we are far from that goal and getting farther away from it each year.

Percent Healthy Weight Adults Ages 20+ By Race and Sex, Pennsylvania 1998-2002



Percent Obese Adults Ages 20+ By Race and Sex, Pennsylvania 1998-2002



Percent Healthy Weight and Obese Adults Ages 20+ By Race and Sex, Pennsylvania 1998-2002

Healthy Weight	2002	2001	2000	1999	1998
All Adults 20+	39±1	38±2	41±2	42±2	39±2
Whites	40±1	38±2	42±2	43±2	40±2
Blacks	27±4	25±6	24±6	34±6	27±6
Males	31±2	30±3	32±3	32±3	33±3
Females.....	47±2	45±3	49±3	52±3	46±3
Obese					
All Adults 20+	24±1	22±2	21±2	20±2	19±1
Whites	23±1	21±2	20±2	19±2	18±2
Blacks	38±5	36±7	32±6	30±6	28±6
Males	25±2	22±2	23±3	21±2	19±2
Females.....	23±1	23±2	20±2	20±2	19±2

NOTE: ± denotes 95% confidence interval

HP2010 State and County Data on the Web

To access the Department of Health's web page of Healthy People 2010 statistics for the state and counties, go to www.health.state.pa.us/stats. The latest available statistics as well as trend data are shown. You can view data for the state, all counties, a specific demographic element (age, sex, race, etc.) or just for a specific county. Complete data sets for the state and counties can be downloaded. There is also a link to the national HP2010 web site.

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