STATISTICAL NEWS

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Classification System for Cause of Death To Change

Change From ICD-9 to ICD-10 Will Affect Reporting of Top Causes

Starting with the reporting of 1999 deaths, the International Classification of Diseases (ICD) system for mortality will adopt the new Tenth Revision or ICD-10 coding structure for determining and classifying causes of death. The change from ICD-9 to ICD-10 (the first revision in twenty years) will affect the reporting of leading causes of death; thereby, creating major discontinuities in mortality trend data.

The rationale for the periodic revisions to the ICD system has been to reflect advances in medical science and changes in diagnostic terminology. Some major differences between ICD-10 and ICD-9 include the following:

- ICD-10 is far more detailed than ICD-9; about 8,000 categories compared with 4,000.
- ICD-10 uses 4-digit alphanumeric codes compared with 4-digit numeric codes used in ICD-9.
- Cause-of-death titles have been changed and medical conditions have been regrouped.

The rationale for the periodic revisions to the ICD system has been to reflect advances in medical science and changes in diagnostic terminology.

- Some coding or classifications rules have been changed.

Due to the adoption of ICD-10, some major causes of death will not be entirely comparable to those coded under ICD-9 or will simply have a name change but include the same conditions.

Examples of title changes for major causes of death include "Chronic Obstructive Pulmonary Disease" or "COPD". In ICD-10, this cause will be entitled "Chronic Lower Respiratory Diseases" but will include the same conditions. The term "Suicide" has been replaced with "Intentional Self-Harm" and "Homicide" has been changed to

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Obesity In Pennsylvania Among Adults Increases

Data for 1995 to 1999 Reviewed; Comparisons of Counties/Regions

In Pennsylvania, the estimated prevalence of obesity among adults has increased by 24 percent between 1995 and 1999. In 1995, the prevalence of obesity obtained from Pennsylvania's Behavioral Risk Factor Surveillance System (BRFSS) was **16.4%** (95% CI or Confidence Interval = 15-17.8%). In 1999, it had increased to **20.3%** (95% CI = 18.8-21.8%).

The BRFSS, funded by the Centers for Disease Control and Prevention (CDC), supports an annual sample survey of adult health status and risky behaviors in all 50 states and the District of Columbia. Information on the rising prevalence of obesity among adults in the United States by selected characteristics can be obtained at the following link: ***www.cdc.gov/nccdphp/dnpa/obesity/prevtable91-99char.htm***

Obesity is determined by calculating the ratio of weight to height producing a measure referred to as the Body Mass Index (BMI). A BMI of 25 or more is considered overweight while a BMI of 30 or greater is considered to be obese. The BMI values for overweight and

In Pennsylvania, estimated prevalence of obesity among adults has increased by 24 percent between 1995 and 1999.

obese were determined by examining the health risk associated with increased weight from the review of clinical data by the National Institutes of Health (NIH). If you would

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1999 Reported Pregnancy Figure Lowest Ever

Since 1991, Rates and Numbers Have Increased Only Once

The total number of reported pregnancies among female residents of Pennsylvania in 1999 was the lowest annual number of reported pregnancies ever recorded since 1980 when these data were first released by the Bureau of Health Statistics. There were 179,291 pregnancies reported in 1999, a decrease of 1,927 or 1.1 percent, from the 181,218 reported for 1998. The annual number of reported pregnancies had been on the increase between 1987 and 1990 but has declined steadily since 1991.

The 1999 reported pregnancy rate of 71.5 per 1,000 females ages 15-44 was slightly lower than the 1998 rate of 71.7 and was the second lowest figure recorded since 1980. The lowest was recorded in 1997 (70.9) Figure 1 on the opposite page depicts rate of reported pregnancies for all Pennsylvania residents from 1985 through 1999. The annual reported pregnancy rate began a decline in 1981 that continued until 1986 when it reached a low of 77.7. The rate then began to increase until 1990 but has declined steadily since then.

The teen rate has declined considerably, from 70.7 in 1989 to an all time low of 49.7 in 1999 (a 30 percent drop)

Figure 1 also shows the teenage (15-19) reported pregnancy rate for the years 1989-1999. The teen rate has declined considerably, from 70.7 in 1989 to an all time low of 49.7 in 1999 (a 30 percent drop).

Three components were used to calculate the reported pregnancies (live births, non-induced fetal deaths, and induced abortions). Please note the following qualifications of the reported pregnancy statistics as released by the Bureau of Health Statistics: fetal deaths exclude those less than 16 weeks of gestation and induced abortions exclude those performed outside the state to residents.

Below is a data table (Table 1) showing 1999 reported pregnancy statistics by woman's age group and outcome for the state. In 1999, almost 81 percent of the reported pregnancies resulted in a live birth, 18.3 percent in an induced abortion, and only 0.9 percent in a fetal death (non-induced termination of 16 weeks or more gestation).

Women in the age group 20-29 accounted for 50.1 percent or 89,853 of all reported pregnancies in 1999; those under 20 years of age, for 11.9 percent or 21,414; and, women 30 years of age and older accounted for almost 38 percent or 68,024.

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In 1999, almost 70 percent of all reported pregnancies to teenage residents under 20 years of age resulted in a live birth, compared to 79.2 percent for women 20-29 years of age and 86.5 percent for those women 30 years of age and older.

Table 2 on the opposite page shows the number of 1999 reported pregnancies by age, race and Hispanic origin of woman for Pennsylvania residents. Pregnancies to white women in 1999 accounted for 77.6 percent or 139,208 of all reported pregnancies; black women accounted for 19.5 percent of all reported pregnancies or 34,935. Reported pregnancies to women of Hispanic origin accounted for only 4.8 percent. Please note that persons of Hispanic origin can be of any race.

During 1999, among Hispanic and black women, 22.8 percent and 21.3 percent (respectively) of the reported pregnancies were to teenagers (under 20 years of age). Among white females, only 9.8 percent were to teenagers of those ages.

In 1999, 86.7 percent of the reported pregnancies to white women resulted in a live birth and 12.5 percent in an induced abortion. Among black women, 57.5 percent of the reported pregnancies resulted in a live birth and 41.1 percent in an induced abortion. The percentages of live births and induced abortions for Hispanic women were similar to those for white women at 83.0 and 15.9, respectively. (See Figure 2 on the opposite page).

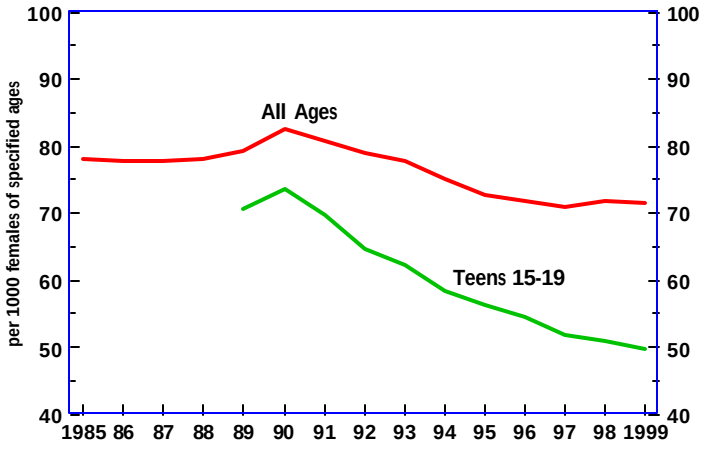
If you have any questions about the data presented here, please contact the Bureau at 717-783-2548.

TABLE 1:
Reported Pregnancies By Woman's Age Group and Outcome
Pennsylvania Residents, 1999

Age of Woman	Reported Pregnancies	Live Births	Fetal Deaths	Induced Abortions
All Ages	179,291	144,828	1,600	32,863
Under 15	567	275	6	286
15-17	7,071	5,003	63	2,005
18-19	13,776	9,555	125	4,096
20-29*	89,853	71,145	700	18,008
30 & Older	68,024	58,850	706	8,468

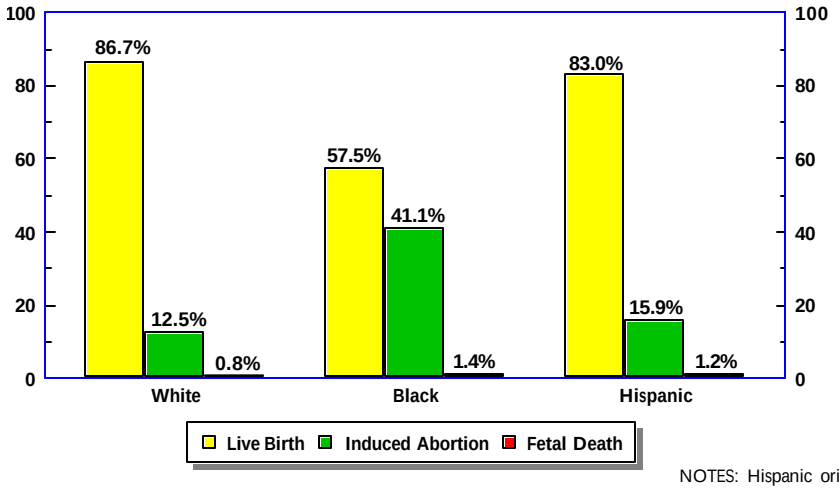
*Unknown age included in age group 20-29.

FIGURE 1:
Reported Pregnancy Rate, All Ages and Teens 15-19
Pennsylvania Residents, 1985-1999



Year	All Ages	Teens 15-19
1999	71.5	49.7
1998	71.7	51.0
1997	70.9	51.8
1996	71.8	54.4
1995	72.8	56.3
1994	75.1	58.3
1993	77.9	62.3
1992	79.0	64.7
1991	80.9	69.8
1990	82.6	73.6
1989	79.2	70.7
1988	78.1	N/A
1987	77.9	N/A
1986	77.7	N/A
1985	78.2	N/A

FIGURE 2:
Reported Pregnancies, Percent Outcome By Race and Hispanic Origin
Pennsylvania Residents, 1999



NOTES: Hispanic origin can be of any race.
Rows may not total 100.0 percent due to rounding.

TABLE 2:
Reported Pregnancies By Age, Race and Hispanic Origin of Woman, Pennsylvania Residents, 1999

Age of Woman	White*	Black	Hispanic Origin
All Ages	139,208	34,935	8,604
Under 15	218	347	53
15-17	4,237	2,753	731
18-19	9,211	4,347	1,180
20-29**	68,019	19,375	4,912
30 & Older	57,523	8,113	1,728

* Unknown race included as white. **Unknown age included in age group 20-29.
NOTE: Hispanic origin can be of any race.

GIS Services Now Available to Department

Bureau of Health Statistics Has New GIS Department Coordinator

Geographic Information Systems (GIS) mapping and spatial data analysis services are now available to all Department of Health offices with the creation of a GIS Coordinator. Using ArcView GIS software on the PC, the GIS Coordinator is able to create, modify, update, and publish in a variety of electronic file formats many of your mapping needs. Printing of paper maps is limited at present to sizes no larger than 8½" x 11" in color. As the program expands, however, we expect that full color, poster size maps will become available. Stay tuned for updates! Customers with printer or plotter capabilities may want to order and obtain Adobe's portable document format (PDF) files or Microsoft PowerPoint files and print their own custom-made maps.

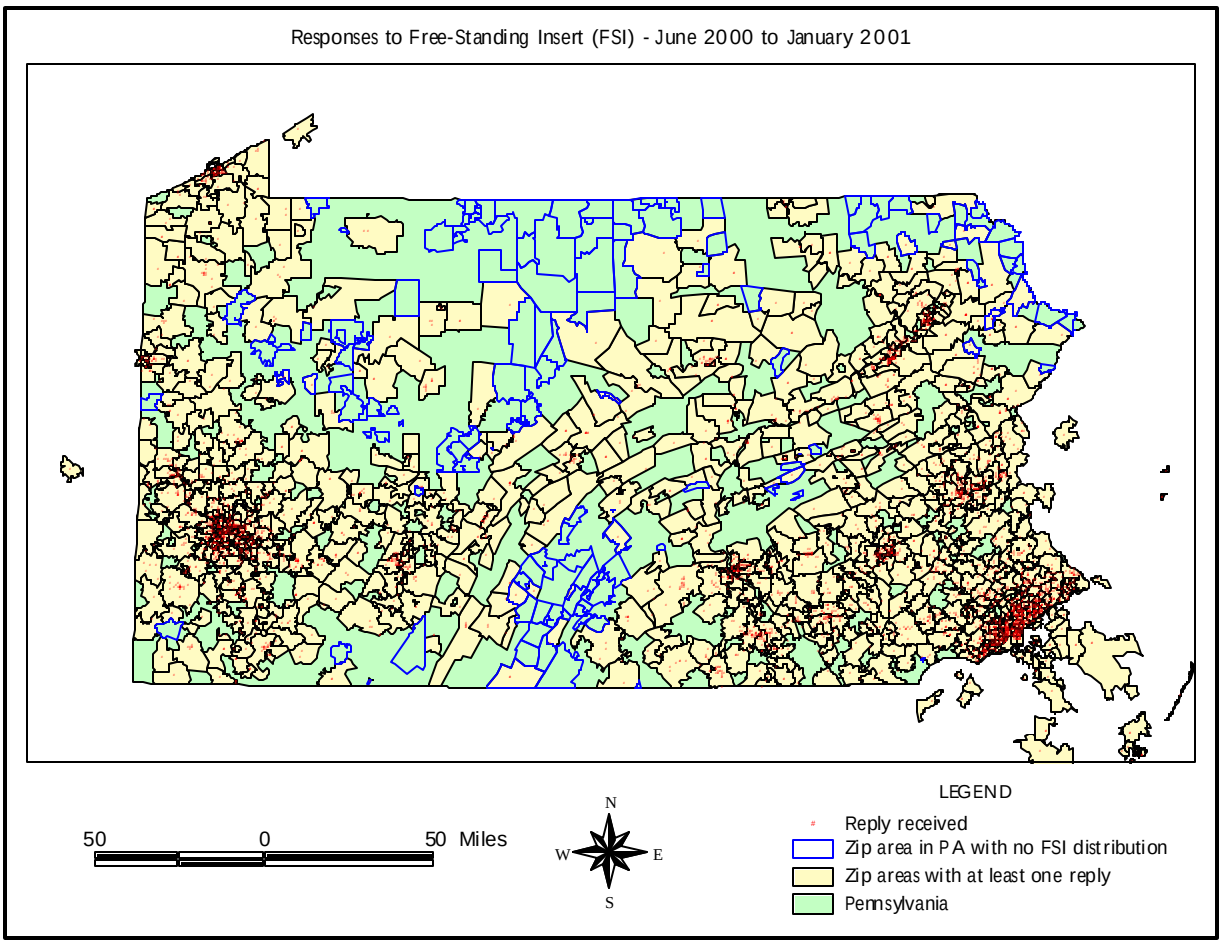
Our GIS Coordinator can also mentor program staff in learning how to use GIS software. The versatility of GIS on the modern PC gives you the power to visualize and present your data in ways undreamed of just five years ago. Mapping converts your tabular data into colorful presentations in ways that improve the communication of complex ideas to large audiences in a short time. If you want people to get your message and remember it, GIS is for you!

Some examples of our new GIS capabilities include mapping of:

- Prostate, lung/bronchus, female breast, and colon/rectum cancer incidence rates
- Point addresses through matching and geocoding of virtually any data for Pennsylvania and limited U S
- Simple county/MCD boundaries
- Slide shows with time series maps

Below is a black and white version of a color map recently created for the Department's Bureau of Chronic Disease and Injury prevention. It shows where respondents to a newspaper freestanding insert live in the state and areas where the inserts were not delivered.

To contact the GIS Coordinator, please telephone Health Statistics at 717-783-2548. Ask for Mark Lavin.



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Classification System for Cause of Death Changing

"Assault." "Unintentional Injuries" has been broken down into three different categories ("Nontransport Accidents", "Motor Vehicle Accidents", and "Other Transport Accidents") in place of the two commonly used with ICD-9 ("Non-Motor Vehicle" and "Motor Vehicle"). Some changes are very minor, i.e., "Heart Disease" will now be named "Diseases of Heart."

As stated earlier, the new ICD revisions for determining and classifying causes of death will result in major discontinuities when comparing causes from previous years. To assist the public health community in understanding the discontinuities caused by adoption of ICD-10, The National Center for Health Statistics (NCHS) double-coded all United States deaths (2.3 million) for 1996 according to ICD-9 and ICD-10 standards. This allowed NCHS to produce comparability ratios from the two coded data sets by dividing the number of deaths for a selected cause classified under ICD-10 by the number of deaths classified to the most nearly comparable cause of death under ICD-9. The resulting ratio represents the net effect of the revision on the counts for this cause and can be used to explain changes in numbers and rates.

...the new ICD revisions for determining and classifying causes of death will result in major discontinuities when comparing causes from previous years.

The table below presents the comparability ratios for the 15 major causes of death based on the NCHS double-coding results. Most causes have a comparability ratio close to 1.0 which represents a near perfect match. However, several causes do have somewhat higher or lower ratios, most notably "Influenza and Pneumonia" and "Alzheimer's Disease." The high/low ratios for those two causes are directly due to the changes in the coding rules for classifying cause of death under ICD-10.

Pneumonia is most often the consequence of another condition or injury and ICD-10 allows for a much broader range of conditions of which pneumonia can be considered a consequence. As a result, pneumonia is much less likely to be selected as an underlying cause of death under ICD-10 than under ICD-9. The opposite is true of Alzheimer's Disease which is now much more likely to be determined as an underlying cause of death under ICD-10.

If you have any questions about the changes to be expected with the adoption of ICD-10 and the release of 1999 cause of death statistics, please contact the Bureau of Health Statistics at 717-783-2548.

Preliminary United States Comparability Ratios for Major Causes of Death
ICD-10 versus ICD-9

ICD-10 Cause	ICD-9 Cause	Comparability Ratio
Diseases of Heart	Heart Disease	0.99
Malignant Neoplasms	Malignant Neoplasms	1.01
Cerebrovascular Disease	Cerebrovascular Disease	1.06
Chronic Lower Respiratory Disease	Chronic Obstructive Pulmonary Disease	1.05
Accidents	Unintentional Injuries	1.03
Influenza and Pneumonia	Influenza and Pneumonia	0.70
Diabetes Mellitus	Diabetes Mellitus	1.01
Septicemia	Septicemia	1.19
Nephritis, Nephrotic Syndrome and Nephrosis	Nephritis, Nephrosis, etc.	1.23
Intentional Self Harm (Suicide)	Suicide	1.00
Chronic Liver Disease and Cirrhosis	Liver Disease and Cirrhosis	1.04
Alzheimer's Disease	Alzheimer's Disease	1.55
Parkinson's Disease	Parkinson's Disease	1.00
Atherosclerosis	Atherosclerosis	0.96
Assault (Homicide)	Homicide	1.00

Continued from Page 1...

Obesity in Pennsylvania

like to know your own BMI, go to ***www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm*** where you can calculate BMI from the height and weight entered.

Across Pennsylvania, there seem to be some differences in the prevalence of obesity. By combining the sample data from five years of the BRFSS surveys and applying new post-stratification weights based upon the 1997 detailed population estimates for counties or grouped counties, we were able create sample sizes sufficient to make sub-state comparisons.

Please be cautioned that the percentages for sub-state geography are for a five-year (1995-1999) sample and, because obesity has been rising over this time frame, the combined figures are not valid estimators of the current prevalence. However, they do provide an effective and appropriate means of comparing prevalence across the state.

Two areas of the state exhibited significantly or borderline higher rates of obesity ...(Philadelphia and a group of Northcentral rural counties)...

Statistical differences were determined by applying a Chi square test controlling for age to compare individual counties or grouped counties to the remainder of the state. The age-adjusted prevalence of obesity in all of Pennsylvania for this five-year period was **18.4%** (95% CI = 17.7-19.1%).

Two areas of the state exhibited significantly (P<.01) or borderline (P>.01 and <.05) higher age-adjusted rates of obesity when compared to the rest of the state (see map below). Philadelphia's age-adjusted prevalence of **21.3%** (95% CI = 19.1-23.5%) for 1995-1999 was significantly higher than the rest of the state. The grouped Northcentral rural counties of Bradford, Clinton, Lycoming, Potter, Sullivan and Tioga exhibited an age-adjusted prevalence of obesity of **23.5%** (95% CI=19.1-25.8%) that was considered borderline significantly higher than the rest of the state.

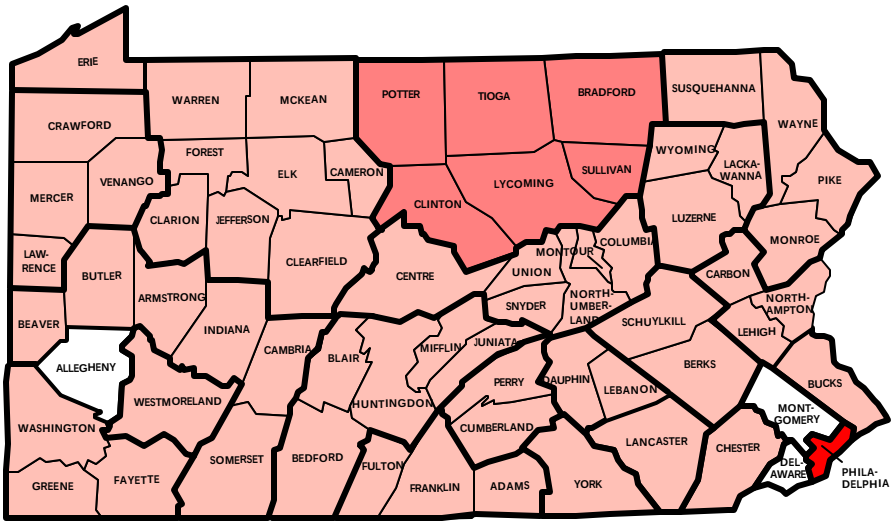
Three counties had age-adjusted rates for 1995-1999 that were considered significantly lower than the rest of the state. The Allegheny County age-adjusted rate of **16.0%** (CI=14.2-17.8%), Delaware County's age-adjusted rate of **14.2%** (CI=11.2-17.2%), and the Montgomery County age-adjusted rate of **14.9%** (CI=12.5-17.3%) were all significantly lower (P<.01).

If you have any questions about the data presented here on obesity among Pennsylvania adults, please contact the Bureau of Health Statistics at 717-783-2548.

"The prevalence of obesity in the United States continued to grow in 1999, representing a serious public health threat to millions of Americans.....Overweight and physical inactivity account for more than 300,000 premature deaths each year in the U.S., second only to tobacco-related deaths."
Reprinted from CDC (Centers for Disease Control and Prevention) letter to the editor published in the October 4, 2000, issue of *The Journal of the American Medical Association* (JAMA).

Remember that March is Nutrition Month.

Obesity Prevalence, Average Annual Age-Adjusted Rate
Pennsylvania Counties and County Groupings, 1995-1999



Significantly Higher than Rest of State*

Borderline Significantly Higher than Rest of State**

Not Significantly Different than Rest of State

Significantly Lower* than Rest of State

*P < .01 **P > .01 and < 05

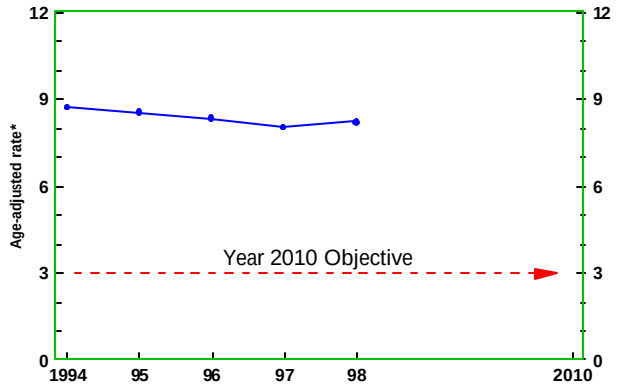
Update: Healthy People 2010 Objectives

Focus Area 26: Substance Abuse

26-2 Reduce cirrhosis deaths.

2010 Target: 3.0

Age-Adjusted Death Rate* for Cirrhosis
Pennsylvania Residents, 1994-1998



1998	8.2
1997	8.0
1996	8.3
1995	8.5
1994	8.7

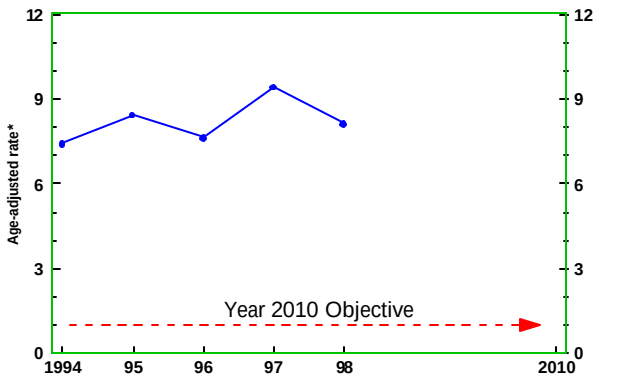
*per 100,000 projected 2000 U.S standard million population

The age-adjusted death rate for cirrhosis of the liver among Pennsylvania residents declined between 1994 and 1998 but only slightly, from 8.7 to 8.2. The national Healthy People 2010 objective has been set for a rate of 3.0 per 100,000 projected 2000 U.S. standard million population. Pennsylvania's 1998 rate of 8.2 is almost three times higher than the national 2010 objective. The Pennsylvania rates are declining but only very slowly (5.7 percent between 1994 and 1998). Therefore, there will need to be much more significant improvement in these death rates for Pennsylvania to have any chance in meeting the 2010 objective.

26-3 Reduce drug-induced deaths.

2010 Target: 1.0

Age-Adjusted Death Rate* for Drug-Induced Deaths
Pennsylvania Residents, 1994-1998



1998	8.1
1997	9.4
1996	7.6
1995	8.4
1994	7.4

*per 100,000 projected 2000 U.S standard million population

Pennsylvania's age-adjusted rate for drug-induced deaths has fluctuated between 7.4 and 9.4 during the five-year period of 1994-1998. The national Healthy People 2010 objective has been set for a rate of 1.0 per 100,000 projected 2000 U.S. standard million population. Pennsylvania's 1998 age-adjusted rate of 8.1 was eight times higher than the national 2010 objective. In addition, there has been no evident trend in the state rates between 1994 and 1998. These rates could quite possibly remain high or even become higher. Without some significant improvement, it seems highly unlikely that the state will meet this national objective.

IMPORTANT NOTE: Please be aware that the age-adjusted rates that appear on this page were calculated based on the projected 2000 U. S. standard million population. Therefore, they are not comparable to other age-adjusted rates that were calculated using a different standard population (e.g., those that appeared in the Healthy People 2000 objectives).

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