

**Health Status Indicators  
for Pennsylvania Counties  
and Health Districts  
2001 Report**

Bureau of Health Statistics  
Pennsylvania Department of Health  
Harrisburg, Pa  
May, 2001

H106.838P

**IMPORTANT CHANGE  
FOR USERS OF THIS REPORT TO NOTE:**

**Age-adjusted mortality rates were calculated using a different standard population (U.S. 2000 standard million) than was used for the rates that appeared in previous reports (U.S. 1940). Therefore, the age-adjusted mortality rates in this report are not comparable to any age-adjusted rates that appeared in previous Health Status Indicators reports or any other age-adjusted mortality rates that were calculated using a different standard million population.**

**Please see the Technical Notes of this report for more discussion of this important change.**

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## **Preface**

This publication of health status indicators for Pennsylvania counties and Department of Health Districts was prepared by the Bureau of Health Statistics of the Pennsylvania Department of Health. The indicators were developed by the Center for Disease Control and Prevention in response to Objective 22.1 of *Healthy People 2000* and are again cited in Objectives 23-2 and 23-5 of *Healthy People 2010*. They are to be used for assessing and comparing the health status of state and local areas.

We encourage the use of the statistics in these reports to assess, compare, and track local health status. Additional statistics (see Appendix) that can be used to calculate the indicators at the minor civil division level are also available from the Bureau upon request.

The format of the report includes presentation of available county and health district data of the latest multiple or single-year data available for each indicator. In addition, county outline state maps with the results of significance testing for most of the indicators are also presented. The testing found which county and health district indicators were significantly higher or lower than the state figures and which state indicators were significantly higher or lower than the United States figures. The formulas used in the significance testing appear in the Technical Notes section in the back of this report. This analysis should provide an additional perspective for users of the indicators. All of the data shown in this report are available in either Microsoft Excel or PDF format. Please note that the data presented in this report may not match county data previously released for the indicators due to differences in the definitions for some of the indicators or updates of selected files.

If any of the data provided in this report or upon special request are used in any publication or release, please include the following statement:

These data were supplied by the Bureau of Health Statistics, Pennsylvania Department of Health.  
The Department specifically disclaims responsibility for any analyses, interpretation or conclusions.

The Bureau of Health Statistics welcomes comments and suggestions on the content and format of this report. Staff is available to answer any questions regarding this report. Please address all comments, questions, requests for data, etc. to:

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## **INTRODUCTION**

In July 1991, the Centers for Disease Control and Prevention (CDC) in collaboration with the National Center for Health Statistics (NCHS) released a set of Health Status Indicators to serve as baseline measurements of health status outcome and/or factors that put individuals at increased risk of disease or premature death. These indicators were developed by a CDC Health Status Indicators Consensus Work Group in response to Objective 22.1 as contained in *Healthy People 2000: National Health Promotion and Disease Prevention Objectives for the Nation* which established multiple goals and objectives for improving the health of Americans by the end of the decade. Specifically, Objective 22.1 is to “develop a set of health status indicators appropriate for Federal, State, and local health agencies and establish use of the set in at least 40 states.” Healthy People 2010 continued support for these indicators in its Objectives 23-2 and 23-5, “Increase the proportion of Federal, Tribal, State, and local health agencies that have made information available to the public in the past year on the...Health Status Indicators...”

The Consensus Work Group identified 18 health status indicators that were adopted by NCHS and CDC. The 18 indicators are divided into two types – health status or risk indicators. The 13 indicators of health status include eight indicators of total and cause-specific mortality rates (age-adjusted and crude), an infant mortality rate, and four indicators of selected morbidity rates (AIDS, measles, tuberculosis, and syphilis). The five indicators of risk include three involving natality statistics (prevalence of low birth weight, adolescent mothers, and no prenatal care in first trimester of pregnancy); one indicator of childhood poverty; and, one on air quality. As previously stated, the 18 indicators were created to represent a general overview of a community's health, and the data needed to monitor them should be readily available at major geographic levels. CDC and NCHS are encouraging all States and local agencies to use these indicators to assess community health and track their progress.

## **CONTENT of the REPORT**

Average annual (three-year summary) rates and annual rates/percentages for 17 of the 18 health status indicators are presented for the United States, Pennsylvania, each of the 67 counties in the state, and then for the six Department of Health Districts. Data for the indicator on air quality are not included since there is no data source with complete data by county.

County outline state maps also appear with the county tables depicting the results of significance testing for many of the indicators. The most recent Pennsylvania data used in this report are for 1999. Indicators updated with 2000 data will appear in the 2002 edition of this report. The United States data shown in this report may not be as recent as state or local level data.

In the Spring, 1992 edition of *Healthy People 2000 Statistical Notes* published by the National Center for Health Statistics (NCHS), national data for the indicators as well as for some subcomponents of the indicators were first released. Age-adjusted mortality rates for heart disease and stroke were listed as major subcomponents of the indicator for cardiovascular disease. They also appear in this report. Racial and Hispanic data for the natality and infant death indicators were also listed in the NCHS report as major subcomponents because of the considerable statistical variation among these groups. Blacks and Hispanics tend to have much higher percentages of low birth weight, teen mothers, and no prenatal care in the first trimester, as well as higher infant death rates. Black data for the infant death and birth indicators are therefore also shown in this report for Pennsylvania, Philadelphia City/County, and six other counties – Allegheny, Chester, Dauphin, Delaware, Erie, and Montgomery. A large majority of the state's black residents live in these seven counties. Data on Hispanic origin have only been collected on birth and death certificates in Pennsylvania since 1989 and are included for the state and five counties (Berks, Lancaster, Lehigh, Northampton, and Philadelphia) where a large segment of the Hispanic population in the state reside. Data on whites appear for the state and the eleven counties that also have black and/or Hispanic data shown in this report. Racial and Hispanic data appear for all six Department of Health Districts.

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Three-year summary or average annual age-adjusted death rates (using the 2000 U.S. standard million population) are presented in this report due to the unreliability of rates based on small numbers of annual events. Pennsylvania has many rural counties with small populations and very few or no deaths per year for some of the causes that appear in this report. Annual numbers of live births by county are much higher than the annual numbers of deaths; therefore, the percentages based on one year of live births can be presented with more confidence in their reliability.

## ***USE of the REPORT***

It should be noted that the health status indicators were not intended to correspond to the Healthy People 2000 or 2010 objectives. They are meant to be a separate set of health data items for assessing and comparing health status, as opposed to tracking progress in achieving objectives. Some of the indicators do appear as a unit of measurement for a 2000 or 2010 objective; some indicators are similar to but are not exactly the same measurement used in a 2000 or 2010 objective; and, some indicators do not appear in any 2000 or 2010 objective.

Through the release of this report, the Bureau of Health Statistics hopes to encourage the use of these indicators for assessing, comparing, and tracking local health status. All of the data shown in this report are available in Microsoft Excel or PDF format.

## ***ADDITIONAL STATISTICS (for Cities, Boroughs and Townships)***

Additional birth and death data at the minor civil division level (city, borough, and township) are available upon request from the Bureau of Health Statistics. Most of the figures are five-year summary data that can be used to calculate the indicators at these local levels. Five-year summary figures are used due to very small annual numbers of events for many minor civil divisions in the state. A complete list of the additional statistics available is included in the Appendix at the back of this report. Five-year summary data have been updated annually starting with the period 1986-1990 so that running averages can be calculated and used for trend analysis.

Additional three-year summary natality and infant death data by race (white and black) for selected cities and boroughs in the state are also available upon request, as well as three-year summary Hispanic birth and infant death data for selected cities and boroughs. The cities and boroughs with black and Hispanic data are those that had a 1990 U.S. Census population of 25,000 or more and had at least 100 black or Hispanic annual births among residents.

## **County and Health District Data:**

### **Data Tables, Significance Testing or Comparison Results, and County Outline Maps by Health Status Indicators**

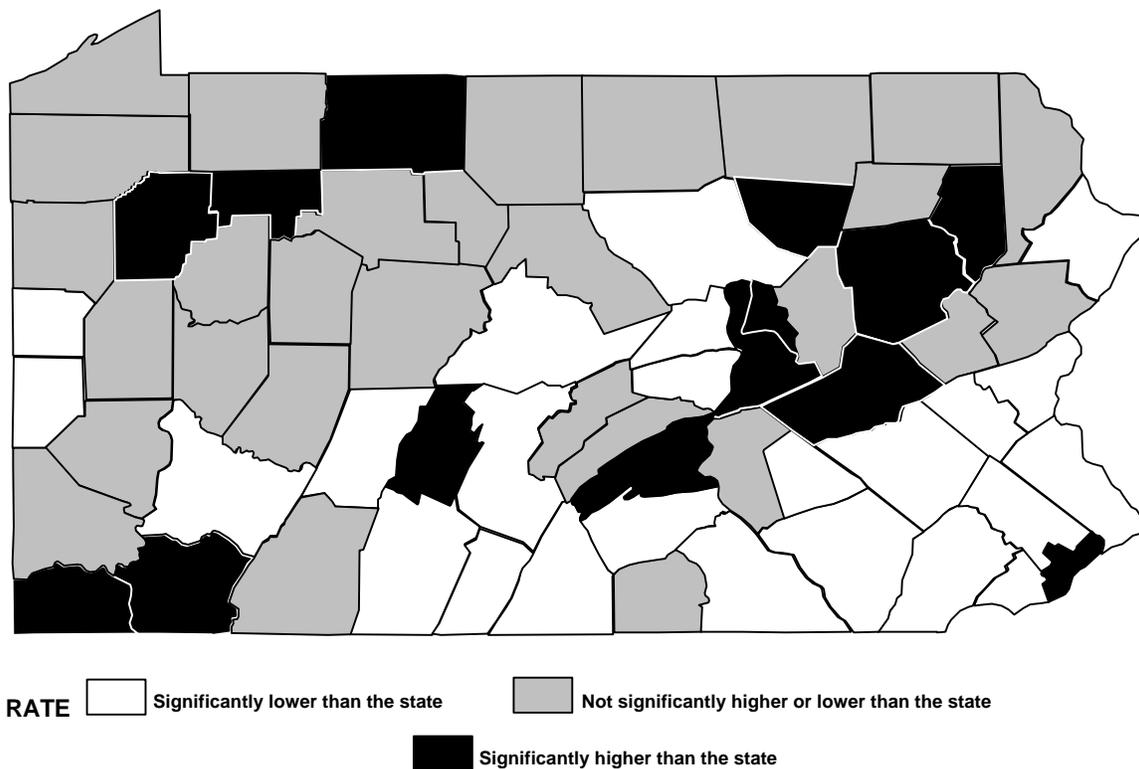
The latest multiple or single-year numbers and rates or ratios for health status indicators by county and by Pennsylvania Department of Health District are presented in summary data table format.

For many of the summary data tables, we have also included 95% confidence bounds and the results of comparison or significance testing of the rates or ratios for each county, health district and the state. We compared each county or health district rate or ratio to the state and also compared the state rate or ratio to the United States figure to determine if age-adjusted death rates could be considered substantially different or other rates/percentages significantly higher or lower. County outline maps are also shown along with the county data tables to geographically display the results of the comparisons.

In order to understand the qualifications of the data presented and how the analyses were conducted, it is important to refer to the footnotes as they appear on each page. Also, review the Technical Notes section (pages 31-34) for a complete discussion of data sources, definitions of terms, age-adjusted rates, the reliability of rates, and the formulas used in some of the comparative analyses.

## Summary of Average Annual Age-Adjusted Death Rates for All Causes, 1997-1999

All Causes	No.	Rate	CI (95%)	All Causes	No.	Rate	CI (95%)
Adams	2,452	855.1	821.25-888.95	Lancaster	12,288	832.7	817.98-847.42 -
Allegheny	45,469	866.1	858.14-874.06	Lawrence	3,360	822.8	794.98-850.62 -
Armstrong	2,555	849.8	816.85-882.75	Lebanon	3,607	798.7	772.63-824.77 -
Beaver	6,222	833.8	813.08-854.52 -	Lehigh	9,135	793.9	777.62-810.18 -
Bedford	1,456	780.2	740.12-820.28 -	Luzerne	13,196	920.2	904.50-935.90 +
Berks	10,993	851.4	835.48-867.32 -	Lycoming	3,581	838.6	811.13-866.07 -
Blair	4,711	922.1	895.77-948.43 +	McKean	1,748	970.3	924.81-1,015.79 +
Bradford	1,913	864.9	826.14-903.66	Mercer	4,243	850.4	824.81-875.99
Bucks	14,455	834.9	821.29-848.51 -	Mifflin	1,477	832.6	790.14-875.06
Butler	4,875	871.7	847.23-896.17	Monroe	3,040	865.2	834.44-895.96
Cambria	5,691	829.6	808.05-851.15 -	Montgomery	20,357	749.5	739.20-759.80 -
Cameron	217	889.5	771.15-1,007.85	Montour	682	988.3	914.13-1,062.47 +
Carbon	2,149	888.8	851.22-926.38	Northampton	7,192	793.2	774.87-811.53 -
Centre	2,398	766.8	736.11-797.49 -	Northumberland	3,743	913.1	883.85-942.35 +
Chester	9,079	764.0	748.28-779.72 -	Perry	1,146	932.9	878.89-986.91 +
Clarion	1,250	886.4	837.26-935.54	Philadelphia	53,569	1,091.8	1,082.55-1,101.05 +
Clearfield	2,657	860.6	827.88-893.32	Pike	930	693.3	648.74-737.86 -
Clinton	1,231	890.5	840.75-940.25	Potter	585	896.7	824.03-969.37
Columbia	2,035	874.4	836.41-912.39	Schuylkill	6,134	929.6	906.34-952.86 +
Crawford	2,892	898.3	865.56-931.04	Snyder	911	749.4	700.74-798.06 -
Cumberland	5,754	803.1	782.35-823.85 -	Somerset	2,756	859.4	827.31-891.49
Dauphin	7,332	867.7	847.84-887.56	Sullivan	315	1,041.4	926.39-1,156.41 +
Delaware	17,083	851.4	838.63-864.17 -	Susquehanna	1,362	892.7	845.29-940.11
Elk	1,128	856.6	806.61-906.59	Tioga	1,309	860.6	813.98-907.22
Erie	8,146	878.3	859.23-897.37	Union	1,010	794.5	745.50-843.50 -
Fayette	5,481	923.0	898.56-947.44 +	Venango	1,960	912.3	871.91-952.69 +
Forest	248	1,180.9	1,033.93-1,327.87 +	Warren	1,516	893.4	848.43-938.37
Franklin	3,659	800.2	774.27-826.13 -	Washington	7,212	854.1	834.39-873.81
Fulton	355	727.3	651.64-802.96 -	Wayne	1,625	908.4	864.23-952.57
Greene	1,381	925.7	876.88-974.52 +	Westmoreland	12,942	840.9	826.41-855.39 -
Huntingdon	1,220	804.9	759.73-850.07 -	Wyoming	810	869.9	809.99-929.81
Indiana	2,636	886.7	852.85-920.55	York	9,486	801.0	784.88-817.12 -
Jefferson	1,590	870.4	827.62-913.18				
Juniata	695	922.4	853.82-990.98	Pennsylvania	383,156	869.0	866.25-871.75 -
Lackawanna	8,521	909.0	889.70-928.30 +	United States (1998)	2,337,256	876.0	874.88-877.12



NOTE: A+ or - after the confidence interval (CI) denotes if the county rate was significantly higher or lower than the state rate. No + or - after a CI denotes no significant difference. Pennsylvania data were compared to U.S. data. CIs and comparison results were not calculated and shown for rates based on less than 20 events. See Technical Notes.

## Summary of Average Annual Age-Adjusted Death Rates for Selected Causes, 1997-1999

### Cardiovascular

Disease	No.	Rate	CI (95%)
Adams	1,069	367.4	345.38-389.42
Allegheny	19,116	348.0	343.07-352.93
Armstrong	1,112	357.4	336.39-378.41
Beaver	2,491	326.1	313.29-338.91 -
Bedford	694	360.9	334.05-387.75
Berks	4,588	345.1	335.11-355.09
Blair	2,094	395.8	378.85-412.75 +
Bradford	803	356.3	331.66-380.94
Bucks	5,545	322.1	313.62-330.58 -
Butler	2,170	380.6	364.59-396.61 +
Cambria	2,467	342.8	329.27-356.33
Cameron	84	325.8	256.13-395.47
Carbon	966	387.3	362.88-411.72 +
Centre	959	310.1	290.47-329.73 -
Chester	3,551	302.5	292.55-312.45 -
Clarion	592	408.3	375.41-441.19 +
Clearfield	1,153	361.1	340.26-381.94
Clinton	497	348.6	317.95-379.25
Columbia	968	406.3	380.70-431.90 +
Crawford	1,207	365.9	345.26-386.54
Cumberland	2,448	338.5	325.09-351.91
Dauphin	3,059	354.6	342.03-367.17
Delaware	6,689	319.4	311.75-327.05 -
Elk	436	318.2	288.33-348.07
Erie	3,467	364.9	352.75-377.05 +
Fayette	2,471	398.1	382.40-413.80 +
Forest	114	521.6	425.85-617.35 +
Franklin	1,384	296.1	280.50-311.70 -
Fulton	147	292.4	245.13-339.67 -
Greene	593	385.3	354.29-416.31 +
Huntingdon	544	353.6	323.89-383.31
Indiana	1,058	348.5	327.50-369.50
Jefferson	761	402.7	374.09-431.31 +
Juniata	280	365.2	322.42-407.98
Lackawanna	3,999	404.4	391.87-416.93 +
Lancaster	5,071	340.3	330.93-349.67
Lawrence	1,545	360.5	342.52-378.48
Lebanon	1,500	318.9	302.76-335.04 -
Lehigh	3,758	315.3	305.22-325.38 -
Luzerne	6,438	420.5	410.23-430.77 +
Lycoming	1,605	363.9	346.10-381.70
McKean	805	430.5	400.76-460.24 +
Mercer	1,783	345.3	329.27-361.33
Mifflin	665	363.3	335.69-390.91
Monroe	1,116	324.3	305.27-343.33 -
Montgomery	7,893	281.0	274.80-287.20 -
Montour	262	362.5	318.61-406.39
Northampton	2,946	317.4	305.94-328.86 -
Northumberland	1,633	381.4	362.90-399.90 +
Perry	475	390.2	355.11-425.29 +
Philadelphia	19,801	387.2	381.81-392.59 +
Pike	337	245.2	219.02-271.38 -
Potter	233	345.6	301.22-389.98
Schuylkill	2,710	388.4	373.78-403.02 +
Snyder	383	311.2	280.03-342.37 -
Somerset	1,243	372.5	351.79-393.21 +
Sullivan	114	350.6	286.24-414.96
Susquehanna	619	390.6	359.83-421.37 +
Tioga	574	370.2	339.91-400.49
Union	460	355.3	322.83-387.77
Venango	819	370.9	345.50-396.30
Warren	636	364.1	335.80-392.40
Washington	2,955	337.0	324.85-349.15
Wayne	728	392.6	364.08-421.12 +
Westmoreland	5,707	359.7	350.37-369.03 +
Wyoming	356	376.5	337.39-415.61
York	3,769	316.0	305.91-326.09 -
Pennsylvania	158,515	347.9	346.19-349.61 -
United States (1998)	940,565	353.6	352.89-354.31

Diseases of Heart	No.	Rate	CI (95%)
Adams	839	288.4	268.88-307.92
Allegheny	15,249	278.4	273.98-282.82
Armstrong	901	290.4	271.44-309.36
Beaver	2,046	268.7	257.06-280.34
Bedford	524	273.4	249.99-296.81
Berks	3,616	273.2	264.30-282.10
Blair	1,714	325.1	309.71-340.49 +
Bradford	651	289.5	267.26-311.74
Bucks	4,146	240.4	233.08-247.72 -
Butler	1,739	305.9	291.52-320.28 +
Cambria	1,955	272.2	260.13-284.27
Cameron	68	269.6	205.52-333.68
Carbon	782	315.0	292.92-337.08 +
Centre	740	238.8	221.59-256.01 -
Chester	2,763	234.9	226.14-243.66 -
Clarion	471	327.1	297.56-356.64 +
Clearfield	939	295.3	276.41-314.19 +
Clinton	388	274.3	247.01-301.59
Columbia	760	320.4	297.62-343.18 +
Crawford	916	278.8	260.74-296.86
Cumberland	1,890	261.5	249.71-273.29 -
Dauphin	2,427	282.3	271.07-293.53
Delaware	5,049	241.9	235.23-248.57 -
Elk	327	239.5	213.54-265.46 -
Erie	2,663	281.4	270.71-292.09
Fayette	1,978	321.9	307.71-336.09 +
Forest	88	398.8	315.48-482.12 +
Franklin	1,037	222.5	208.96-236.04 -
Fulton	101	200.1	161.08-239.12 -
Greene	501	328.3	299.55-357.05 +
Huntingdon	440	286.5	259.73-313.27
Indiana	889	294.1	274.77-313.43 +
Jefferson	574	304.9	279.96-329.84 +
Juniata	210	274.2	237.11-311.29
Lackawanna	3,299	334.5	323.09-345.91 +
Lancaster	3,902	262.3	254.07-270.53 -
Lawrence	1,265	295.6	279.31-311.89 +
Lebanon	1,183	252.3	237.92-266.68 -
Lehigh	3,010	253.0	243.96-262.04 -
Luzerne	5,185	340.1	330.84-349.36 +
Lycoming	1,253	284.5	268.75-300.25
McKean	556	302.8	277.63-327.97 +
Mercer	1,424	277.2	262.80-291.60
Mifflin	524	288.0	263.34-312.66
Monroe	907	262.9	245.79-280.01
Montgomery	5,844	208.5	203.15-213.85 -
Montour	212	295.8	255.98-335.62
Northampton	2,407	259.8	249.42-270.18 -
Northumberland	1,291	303.9	287.32-320.48 +
Perry	380	311.4	280.09-342.71 +
Philadelphia	15,424	302.3	297.53-307.07 +
Pike	271	197.3	173.81-220.79 -
Potter	181	268.8	229.64-307.96
Schuylkill	2,158	310.7	297.59-323.81 +
Snyder	306	248.5	220.66-276.34
Somerset	1,009	303.3	284.59-322.01 +
Sullivan	92	280.6	223.26-337.94
Susquehanna	510	322.3	294.33-350.27 +
Tioga	438	284.0	257.40-310.60
Union	361	279.4	250.58-308.22
Venango	625	285.3	262.93-307.67
Warren	502	288.4	263.17-313.63
Washington	2,355	268.7	257.85-279.55
Wayne	575	309.9	284.57-335.23 +
Westmoreland	4,609	291.5	283.08-299.92 +
Wyoming	279	295.4	260.74-330.06
York	2,925	245.4	236.51-254.29 -
Pennsylvania	124,643	274.4	272.88-275.92 +
United States (1998)	724,859	272.5	271.87-273.13

NOTE: A+ or - after the confidence interval (CI) denotes if the county rate was significantly higher or lower than the state rate. No + or - after a CI denotes no significant difference. State data were compared to U.S. data. CIs were not calculated for rates based on less than 20 events. See Technical Notes.

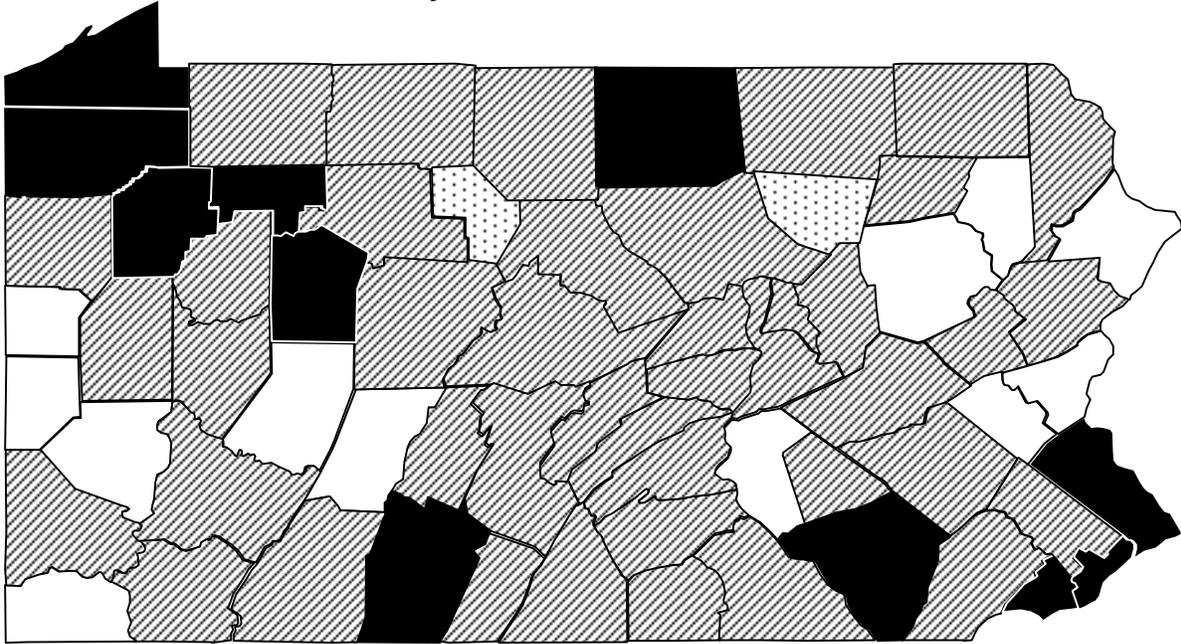


## Summary of Average Annual Age-Adjusted Death Rates for Selected Causes, 1997-1999

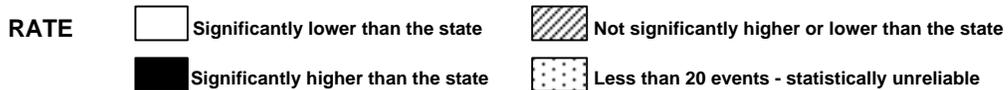
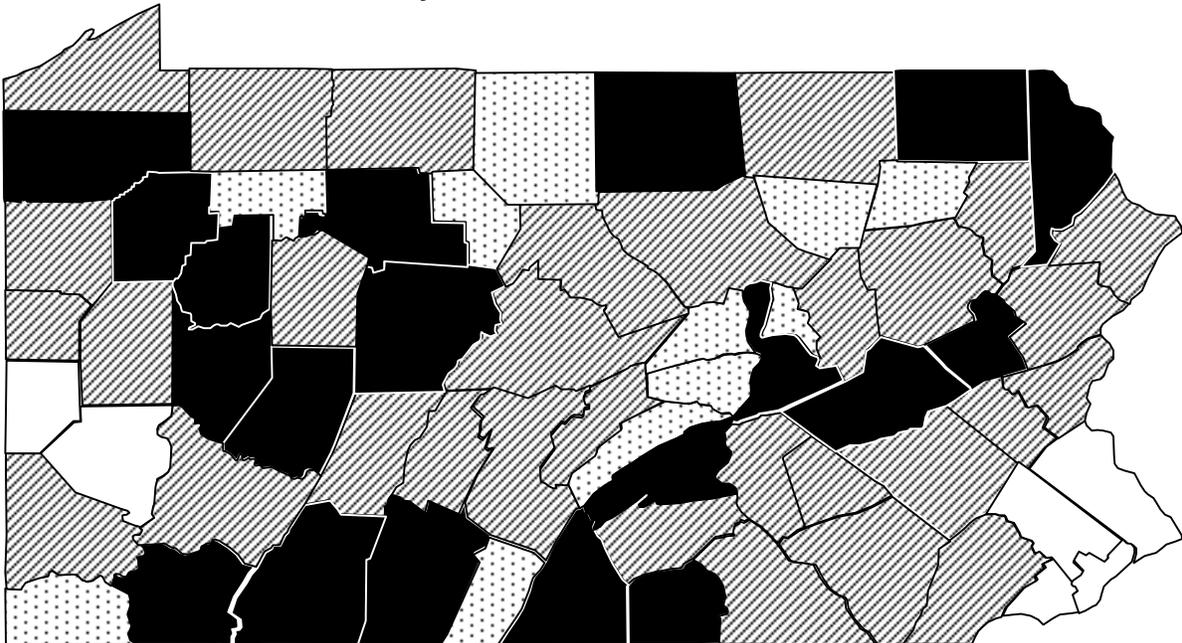
Stroke				Motor Vehicle Accidents			
No.	Rate	CI (95%)		No.	Rate	CI (95%)	
Adams	180	61.9	52.86-70.94	Adams	58	21.3	15.82-26.78 +
Allegheny	2,836	51.1	49.22-52.98 -	Allegheny	290	7.3	6.46-8.14 -
Armstrong	159	50.3	42.48-58.12	Armstrong	44	19.1	13.46-24.74 +
Beaver	339	43.6	38.96-48.24 -	Beaver	55	9.7	7.14-12.26 -
Bedford	141	72.5	60.53-84.47 +	Bedford	35	23.8	15.92-31.68 +
Berks	738	54.6	50.66-58.54	Berks	167	15.1	12.81-17.39
Blair	288	53.4	47.23-59.57	Blair	60	14.9	11.13-18.67
Bradford	118	52.2	42.78-61.62	Bradford	29	16.5	10.49-22.51
Bucks	1,056	61.8	58.07-65.53 +	Bucks	183	10.7	9.15-12.25 -
Butler	332	57.3	51.14-63.46	Butler	67	12.7	9.66-15.74
Cambria	336	46.2	41.26-51.14 -	Cambria	71	14.0	10.74-17.26
Cameron	13	44.8		Cameron	2	12.3	
Carbon	118	46.5	38.11-54.89	Carbon	37	21.5	14.57-28.43 +
Centre	176	57.4	48.92-65.88	Centre	53	15.2	11.11-19.29
Chester	608	52.2	48.05-56.35	Chester	146	11.7	9.80-13.60
Clarion	87	57.6	45.50-69.70	Clarion	28	22.1	13.91-30.29 +
Clearfield	160	48.8	41.24-56.36	Clearfield	54	22.3	16.35-28.25 +
Clinton	81	55.4	43.34-67.46	Clinton	20	17.4	9.77-25.03
Columbia	156	63.9	53.87-73.93	Columbia	33	16.8	11.07-22.53
Crawford	219	65.1	56.48-73.72 +	Crawford	54	19.6	14.37-24.83 +
Cumberland	418	57.8	52.26-63.34	Cumberland	70	10.7	8.19-13.21
Dauphin	420	48.4	43.77-53.03 -	Dauphin	93	13.0	10.36-15.64
Delaware	1,231	58.2	54.95-61.45 +	Delaware	151	8.9	7.48-10.32 -
Elk	78	56.0	43.57-68.43	Elk	30	29.9	19.20-40.60 +
Erie	615	63.6	58.57-68.63 +	Erie	125	14.8	12.21-17.39
Fayette	358	55.2	49.48-60.92	Fayette	87	19.5	15.40-23.60 +
Forest	21	101.2	57.92-144.48 +	Forest	5	26.7	
Franklin	267	56.6	49.81-63.39	Franklin	82	21.5	16.85-26.15 +
Fulton	22	45.5	26.49-64.51	Fulton	19	44.4	
Greene	68	42.4	32.32-52.48 -	Greene	17	12.3	
Huntingdon	71	46.1	35.38-56.82	Huntingdon	29	20.2	12.85-27.55
Indiana	127	40.8	33.70-47.90 -	Indiana	67	22.7	17.26-28.14 +
Jefferson	135	71.1	59.11-83.09 +	Jefferson	26	18.3	11.27-25.33
Juniata	47	61.6	43.99-79.21	Juniata	16	23.9	
Lackawanna	499	49.8	45.43-54.17 -	Lackawanna	73	11.5	8.86-14.14
Lancaster	929	61.9	57.92-65.88 +	Lancaster	191	13.9	11.93-15.87
Lawrence	202	46.6	40.17-53.03 -	Lawrence	50	17.0	12.29-21.71
Lebanon	244	51.2	44.78-57.62	Lebanon	61	17.0	12.73-21.27
Lehigh	566	47.0	43.13-50.87 -	Lehigh	126	13.7	11.31-16.09
Luzerne	697	45.1	41.75-48.45 -	Luzerne	114	11.8	9.63-13.97
Lycoming	273	61.3	54.03-68.57	Lycoming	48	13.2	9.47-16.93
McKean	92	49.4	39.31-59.49	McKean	26	18.8	11.57-26.03
Mercer	273	51.4	45.30-57.50	Mercer	52	13.4	9.76-17.04
Mifflin	115	61.4	50.18-72.62	Mifflin	21	15.1	8.64-21.56
Monroe	165	48.9	41.44-56.36	Monroe	61	16.3	12.21-20.39
Montgomery	1,583	55.9	53.15-58.65	Montgomery	216	10.1	8.75-11.45 -
Montour	39	50.7	34.79-66.61	Montour	13	25.1	
Northampton	405	43.3	39.08-47.52 -	Northampton	102	12.5	10.07-14.93
Northumberland	265	60.0	52.78-67.22	Northumberland	57	20.1	14.88-25.32 +
Perry	70	58.1	44.49-71.71	Perry	28	21.7	13.66-29.74 +
Philadelphia	3,284	63.5	61.33-65.67 +	Philadelphia	459	10.4	9.45-11.35 -
Pike	55	39.7	29.21-50.19 -	Pike	20	17.3	9.72-24.88
Potter	38	56.5	38.54-74.46	Potter	16	30.2	
Schuylkill	378	53.0	47.66-58.34	Schuylkill	104	22.2	17.93-26.47 +
Snyder	65	53.0	40.12-65.88	Snyder	15	12.3	
Somerset	176	52.0	44.32-59.68	Somerset	57	23.6	17.47-29.73 +
Sullivan	15	48.7		Sullivan	1	4.9	
Susquehanna	84	52.7	41.43-63.97	Susquehanna	38	31.0	21.14-40.86 +
Tioga	108	68.5	55.58-81.42 +	Tioga	35	27.9	18.66-37.14 +
Union	78	60.0	46.68-73.32	Union	12	8.4	
Venango	149	65.7	55.15-76.25 +	Venango	39	22.7	15.58-29.82 +
Warren	109	61.5	49.95-73.05	Warren	27	19.8	12.33-27.27
Washington	452	51.2	46.48-55.92	Washington	70	11.4	8.73-14.07
Wayne	117	63.1	51.67-74.53	Wayne	35	27.4	18.32-36.48 +
Westmoreland	825	51.4	47.89-54.91	Westmoreland	146	12.7	10.64-14.76
Wyoming	54	56.9	41.72-72.08	Wyoming	14	15.9	
York	657	54.9	50.70-59.10	York	161	14.7	12.43-16.97
Pennsylvania	25,080	54.3	53.63-54.97 -	Pennsylvania	4,791	13.0	12.63-13.37 -
United States (1998)	158,448	59.6	59.31-59.89	United States (1998)	43,501	16.1	15.95-16.25

NOTE: A+ or - after the confidence interval (CI) denotes if the county rate was significantly higher or lower than the state rate. No + or - after a CI denotes no significant difference. State data were compared to U.S. data. CIs were not calculated for rates based on less than 20 events. See Technical Notes.

## Average Annual Age-Adjusted Death Rates - Stroke Pennsylvania Residents, 1997-1999



## Average Annual Age-Adjusted Death Rates - Motor Vehicle Accidents Pennsylvania Residents, 1997-1999



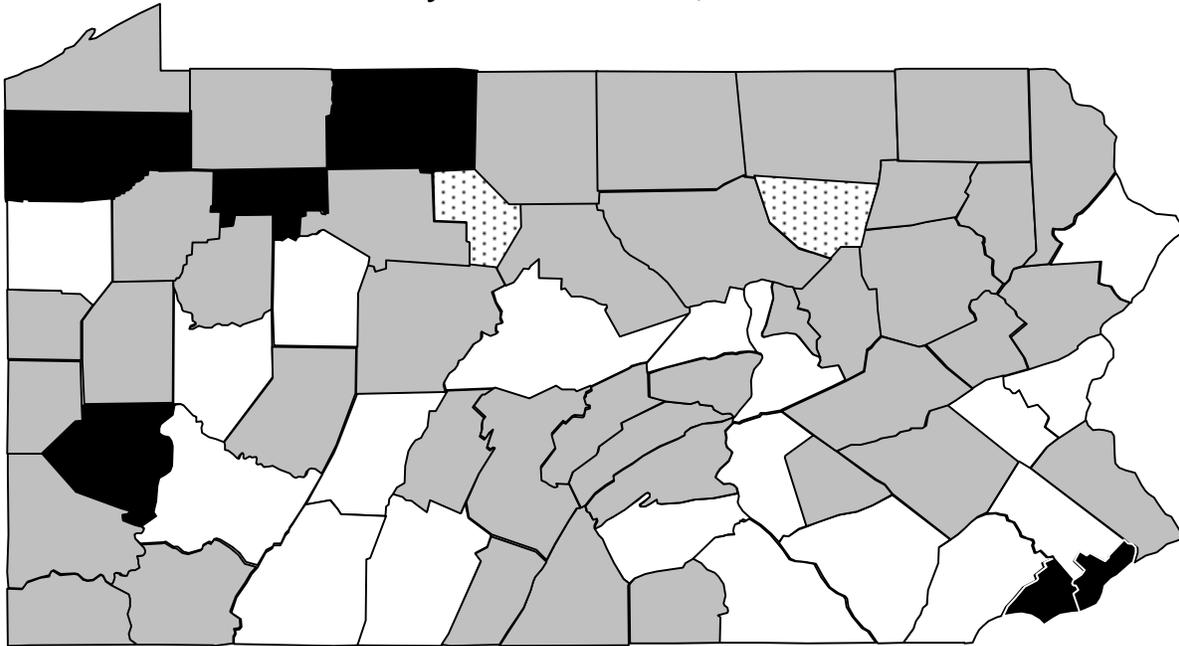
Note: Significance was determined by calculating and comparing county confidence intervals to the state rate. The calculations were not performed for counties that had less than 20 events. Rates for counties with less than 20 events are considered unreliable. See Technical Notes.

## Summary of Average Annual Age-Adjusted Death Rates for Selected Causes, 1997-1999

<b>Lung Cancer</b>	<b>No.</b>	<b>Rate</b>	<b>CI (95%)</b>	<b>Breast Cancer</b>	<b>No.</b>	<b>Rate</b>	<b>CI (95%)</b>
Adams	155	54.9	46.26-63.54	Adams	32	20.6	13.46-27.74 -
Allegheny	3,145	62.1	59.93-64.27 +	Allegheny	841	29.9	27.88-31.92
Armstrong	130	44.5	36.85-52.15 -	Armstrong	30	18.6	11.94-25.26 -
Beaver	458	61.7	56.05-67.35	Beaver	122	30.4	25.01-35.79
Bedford	78	41.2	32.06-50.34 -	Bedford	27	26.1	16.26-35.94
Berks	668	53.2	49.17-57.23	Berks	229	33.3	28.99-37.61
Blair	281	56.7	50.07-63.33	Blair	86	30.3	23.90-36.70
Bradford	120	55.6	45.65-65.55	Bradford	44	36.7	25.86-47.54
Bucks	984	55.8	52.31-59.29	Bucks	253	25.2	22.09-28.31 -
Butler	294	54.2	48.00-60.40	Butler	101	32.8	26.40-39.20
Cambria	334	50.8	45.35-56.25 -	Cambria	98	28.4	22.78-34.02
Cameron	18	73.6		Cameron	7	48.9	
Carbon	136	56.9	47.34-66.46	Carbon	32	26.2	17.12-35.28
Centre	137	42.8	35.63-49.97 -	Centre	50	29.3	21.18-37.42
Chester	599	49.3	45.35-53.25 -	Chester	179	26.1	22.28-29.92
Clarion	63	47.7	35.92-59.48	Clarion	27	37.4	23.29-51.51
Clearfield	171	57.3	48.71-65.89	Clearfield	38	22.2	15.14-29.26 -
Clinton	74	56.2	43.40-69.00	Clinton	14	20.1	
Columbia	111	49.1	39.97-58.23	Columbia	29	21.2	13.48-28.92 -
Crawford	212	67.3	58.24-76.36 +	Crawford	47	28.0	19.99-36.01
Cumberland	345	47.7	42.67-52.73 -	Cumberland	99	24.2	19.43-28.97 -
Dauphin	416	50.8	45.92-55.68 -	Dauphin	143	28.9	24.16-33.64
Delaware	1,166	60.2	56.74-63.66 +	Delaware	331	30.4	27.12-33.68
Elk	77	59.3	46.05-72.55	Elk	25	34.4	20.92-47.88
Erie	535	59.6	54.55-64.65	Erie	144	28.5	23.85-33.16
Fayette	347	61.2	54.76-67.64	Fayette	83	26.3	20.64-31.96
Forest	23	99.6	58.89-140.31 +	Forest	5	51.9	
Franklin	236	51.9	45.28-58.52	Franklin	72	27.6	21.22-33.98
Fulton	21	43.0	24.61-61.39	Fulton	6	24.4	
Greene	92	67.0	53.31-80.69	Greene	16	20.8	
Huntingdon	73	48.4	37.30-59.50	Huntingdon	13	15.6	
Indiana	149	51.0	42.81-59.19	Indiana	46	30.0	21.33-38.67
Jefferson	77	44.7	34.72-54.68 -	Jefferson	30	30.1	19.33-40.87
Juniata	34	46.3	30.74-61.86	Juniata	13	30.7	
Lackawanna	477	54.8	49.88-59.72	Lackawanna	156	31.0	26.14-35.86
Lancaster	702	47.7	44.17-51.23 -	Lancaster	244	29.4	25.71-33.09
Lawrence	209	51.8	44.78-58.82	Lawrence	64	30.2	22.80-37.60
Lebanon	222	50.4	43.77-57.03	Lebanon	74	31.6	24.40-38.80
Lehigh	500	45.0	41.06-48.94 -	Lehigh	178	28.6	24.40-32.80
Luzerne	714	54.0	50.04-57.96	Luzerne	216	28.9	25.05-32.75
Lycoming	214	51.4	44.51-58.29	Lycoming	48	22.2	15.92-28.48 -
McKean	130	78.0	64.59-91.41 +	McKean	26	27.8	17.11-38.49
Mercer	240	50.3	43.94-56.66 -	Mercer	83	31.9	25.04-38.76
Mifflin	83	49.6	38.93-60.27	Mifflin	28	30.0	18.89-41.11
Monroe	239	64.8	56.58-73.02	Monroe	66	33.7	25.57-41.83
Montgomery	1,246	46.6	44.01-49.19 -	Montgomery	469	31.5	28.65-34.35
Montour	37	59.2	40.12-78.28	Montour	11	24.2	
Northampton	450	50.3	45.65-54.95 -	Northampton	126	25.2	20.80-29.60
Northumberland	173	44.3	37.70-50.90 -	Northumberland	70	32.7	25.04-40.36
Perry	58	45.6	33.86-57.34	Perry	21	30.0	17.17-42.83
Philadelphia	3,667	78.7	76.15-81.25 +	Philadelphia	1,041	37.7	35.41-39.99 +
Pike	57	41.3	30.58-52.02 -	Pike	15	22.3	
Potter	31	46.7	30.26-63.14	Potter	8	21.7	
Schuylkill	387	61.8	55.64-67.96	Schuylkill	95	27.0	21.57-32.43
Snyder	60	49.5	36.97-62.03	Snyder	18	29.7	
Somerset	131	41.4	34.31-48.49 -	Somerset	48	27.1	19.43-34.77
Sullivan	11	43.2		Sullivan	5	26.6	
Susquehanna	72	47.2	36.30-58.10	Susquehanna	25	30.8	18.73-42.87
Tioga	72	47.8	36.76-58.84	Tioga	23	27.9	16.50-39.30
Union	49	40.2	28.94-51.46 -	Union	18	27.2	
Venango	133	63.1	52.38-73.82	Venango	31	25.6	16.59-34.61
Warren	79	47.8	37.26-58.34	Warren	22	24.3	14.15-34.45
Washington	510	61.8	56.44-67.16	Washington	119	26.3	21.57-31.03
Wayne	99	55.3	44.41-66.19	Wayne	34	36.2	24.03-48.37
Westmoreland	807	53.0	49.34-56.66 -	Westmoreland	215	27.9	24.17-31.63
Wyoming	52	57.1	41.58-72.62	Wyoming	10	18.7	
York	605	51.2	47.12-55.28 -	York	161	23.9	20.21-27.59 -
Pennsylvania	24,275	56.7	55.99-57.41 -	Pennsylvania	7,080	29.5	28.81-30.19 +
United States (1998)	154,561	57.6	57.31-57.89	United States (1998)	41,737	27.9	27.63-28.17

NOTE: A+ or - after the confidence interval (CI) denotes if the county rate was significantly higher or lower than the state rate. No + or - after a CI denotes no significant difference. State data were compared to U.S. data. CIs were not calculated for rates based on less than 20 events. See Technical Notes.

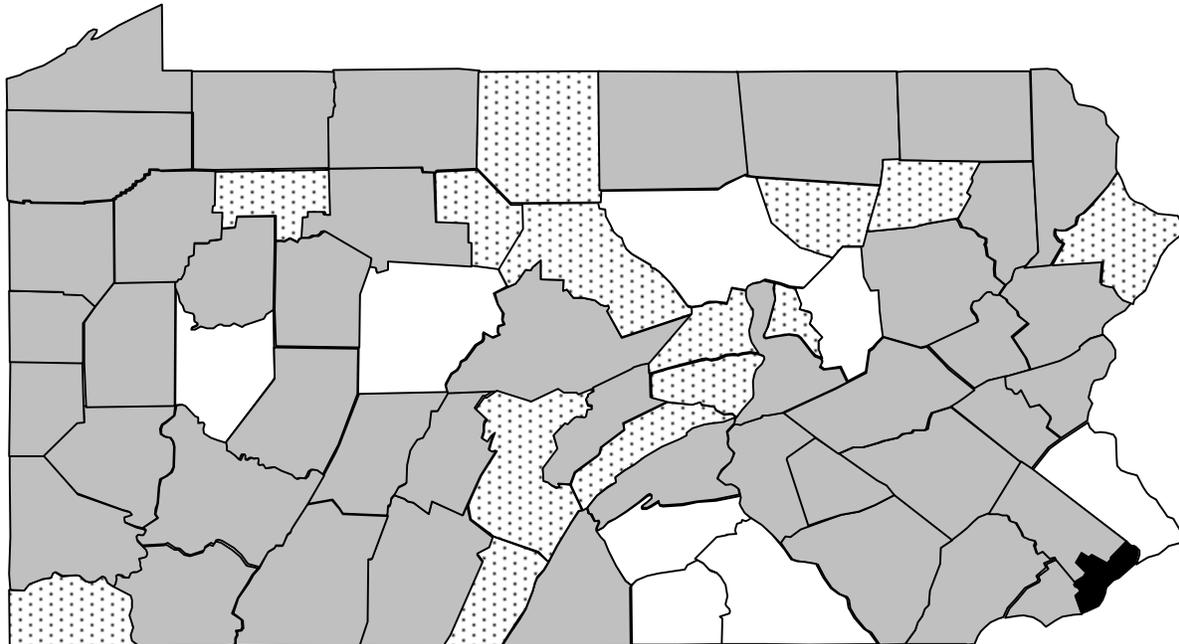
## Average Annual Age-Adjusted Death Rates - Lung Cancer Pennsylvania Residents, 1997-1999



**RATE**

Significantly lower than the state	Not significantly higher or lower than the state
Significantly higher than the state	Less than 20 events - statistically unreliable

## Average Annual Age-Adjusted Death Rates - Breast Cancer Pennsylvania Residents, 1997-1999



**RATE**

Significantly lower than the state	Not significantly higher or lower than the state
Significantly higher than the state	Less than 20 events - statistically unreliable

Note: Significance was determined by calculating and comparing county confidence intervals to the state rate. The calculations were not performed for counties that had less than 20 events. Rates for counties with less than 20 events are considered unreliable. See Technical Notes.

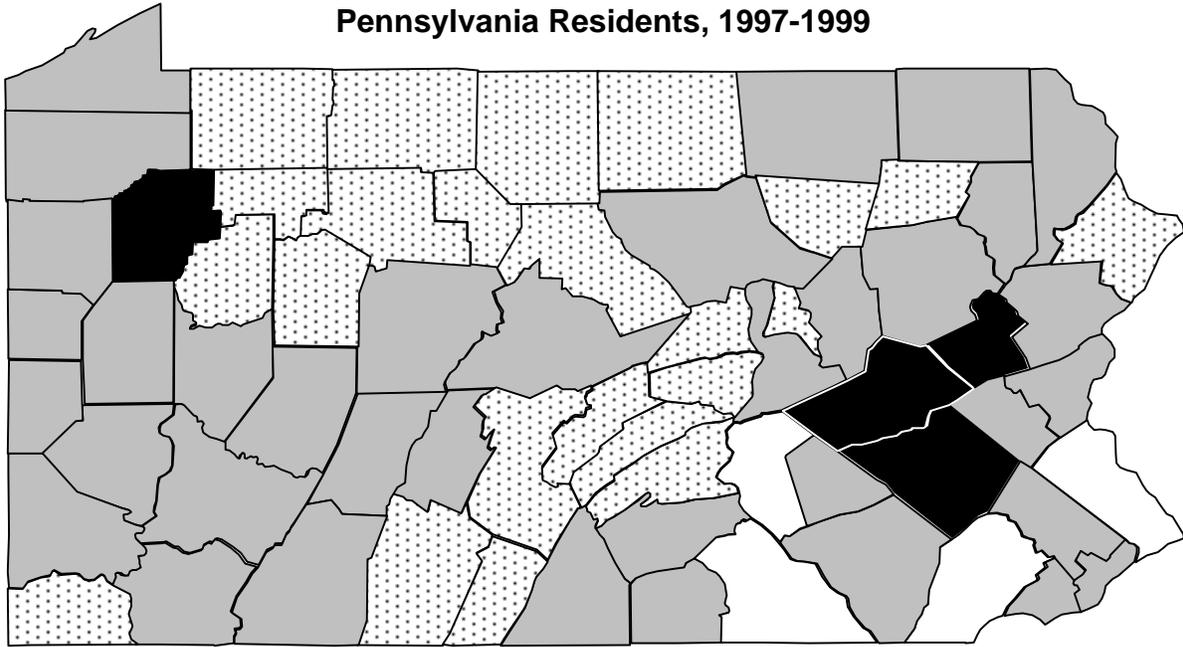
## Summary of Average Annual Age-Adjusted Death Rates for Selected Causes, 1997-1999

### Intentional Self-harm

(Suicide)	No.	Rate	CI (95%)	Assault (Homicide)	No.	Rate	CI (95%)
Adams	27	10.3	6.41-14.19	Adams	1	0.4	
Allegheny	468	11.9	10.82-12.98	Allegheny	241	6.7	5.85-7.55 +
Armstrong	20	8.9	5.00-12.80	Armstrong	4	1.9	
Beaver	59	10.6	7.90-13.30	Beaver	19	3.5	
Bedford	18	12.0		Bedford	2	1.3	
Berks	146	13.5	11.31-15.69 +	Berks	47	4.4	3.14-5.66 -
Blair	53	14.2	10.38-18.02	Blair	11	3.0	
Bradford	22	11.7	6.81-16.59	Bradford	4	2.1	
Bucks	161	9.1	7.69-10.51 -	Bucks	29	1.7	1.08-2.32 -
Butler	53	10.2	7.45-12.95	Butler	11	2.2	
Cambria	60	12.6	9.41-15.79	Cambria	9	2.0	
Cameron	2	13.7		Cameron	1	8.3	
Carbon	30	18.0	11.56-24.44 +	Carbon	4	2.3	
Centre	32	9.4	6.14-12.66	Centre	7	2.0	
Chester	100	7.9	6.35-9.45 -	Chester	23	1.8	1.06-2.54 -
Clarion	14	11.4		Clarion	2	1.4	
Clearfield	24	9.5	5.70-13.30	Clearfield	9	3.8	
Clinton	12	11.3		Clinton	1	1.1	
Columbia	20	10.4	5.84-14.96	Columbia	9	5.0	
Crawford	27	10.4	6.48-14.32	Crawford	9	3.6	
Cumberland	62	9.7	7.29-12.11	Cumberland	14	2.2	
Dauphin	65	8.7	6.58-10.82 -	Dauphin	30	4.2	2.70-5.70 -
Delaware	180	10.9	9.31-12.49	Delaware	80	4.9	3.83-5.97
Elk	16	16.2		Elk	4	4.0	
Erie	104	12.7	10.26-15.14	Erie	23	2.6	1.54-3.66 -
Fayette	49	11.2	8.06-14.34	Fayette	11	2.6	
Forest	0	-		Forest	1	10.2	
Franklin	45	11.5	8.14-14.86	Franklin	16	4.3	
Fulton	6	14.0		Fulton	0	-	
Greene	18	13.5		Greene	6	4.7	
Huntingdon	19	14.2		Huntingdon	4	3.0	
Indiana	36	13.6	9.16-18.04	Indiana	1	0.5	
Jefferson	15	10.3		Jefferson	4	2.8	
Juniata	3	4.5		Juniata	2	3.0	
Lackawanna	84	13.7	10.77-16.63	Lackawanna	17	2.9	
Lancaster	136	10.0	8.32-11.68	Lancaster	38	2.8	1.91-3.69 -
Lawrence	24	8.0	4.80-11.20	Lawrence	10	3.9	
Lebanon	33	9.1	6.00-12.20	Lebanon	7	2.1	
Lehigh	103	11.0	8.88-13.12	Lehigh	36	4.1	2.76-5.44 -
Luzerne	107	11.7	9.48-13.92	Luzerne	25	2.4	1.46-3.34 -
Lycoming	31	8.6	5.57-11.63	Lycoming	9	2.7	
McKean	17	12.3		McKean	1	0.8	
Mercer	38	10.3	7.03-13.57	Mercer	10	2.6	
Mifflin	12	8.8		Mifflin	0	-	
Monroe	45	12.1	8.56-15.64	Monroe	13	3.5	
Montgomery	210	9.7	8.39-11.01	Montgomery	52	2.6	1.89-3.31 -
Montour	10	19.3		Montour	0	-	
Northampton	87	11.1	8.77-13.43	Northampton	20	2.6	1.46-3.74 -
Northumberland	39	13.9	9.54-18.26	Northumberland	9	3.3	
Perry	16	11.7		Perry	1	0.8	
Philadelphia	496	11.6	10.58-12.62	Philadelphia	1,052	23.8	22.36-25.24 +
Pike	18	15.0		Pike	2	1.6	
Potter	7	12.5		Potter	1	2.1	
Schuylkill	74	16.1	12.43-19.77 +	Schuylkill	13	3.0	
Snyder	11	10.1		Snyder	2	1.7	
Somerset	35	14.1	9.43-18.77	Somerset	5	2.3	
Sullivan	3	15.1		Sullivan	0	-	
Susquehanna	22	16.8	9.78-23.82	Susquehanna	4	3.4	
Tioga	13	9.1		Tioga	1	1.0	
Union	9	7.1		Union	4	3.1	
Venango	32	18.6	12.16-25.04 +	Venango	8	4.7	
Warren	17	11.6		Warren	1	0.9	
Washington	73	11.6	8.94-14.26	Washington	14	2.2	
Wayne	20	14.6	8.20-21.00	Wayne	6	4.9	
Westmoreland	140	12.2	10.18-14.22	Westmoreland	27	2.5	1.56-3.44 -
Wyoming	9	10.3		Wyoming	2	2.3	
York	101	8.9	7.16-10.64 -	York	26	2.4	1.48-3.32 -
Pennsylvania	4,038	11.0	10.66-11.34	Pennsylvania	2,055	5.8	5.55-6.05 -
United States (1998)	30,575	11.3	11.17-11.43	United States (1998)	18,272	6.7	6.60-6.80

NOTE: A+ or - after the confidence interval (CI) denotes if the county rate was significantly higher or lower than the state rate. No + or - after a CI denotes no significant difference. State data were compared to U.S. data. CIs were not calculated for rates based on less than 20 events. See Technical Notes.

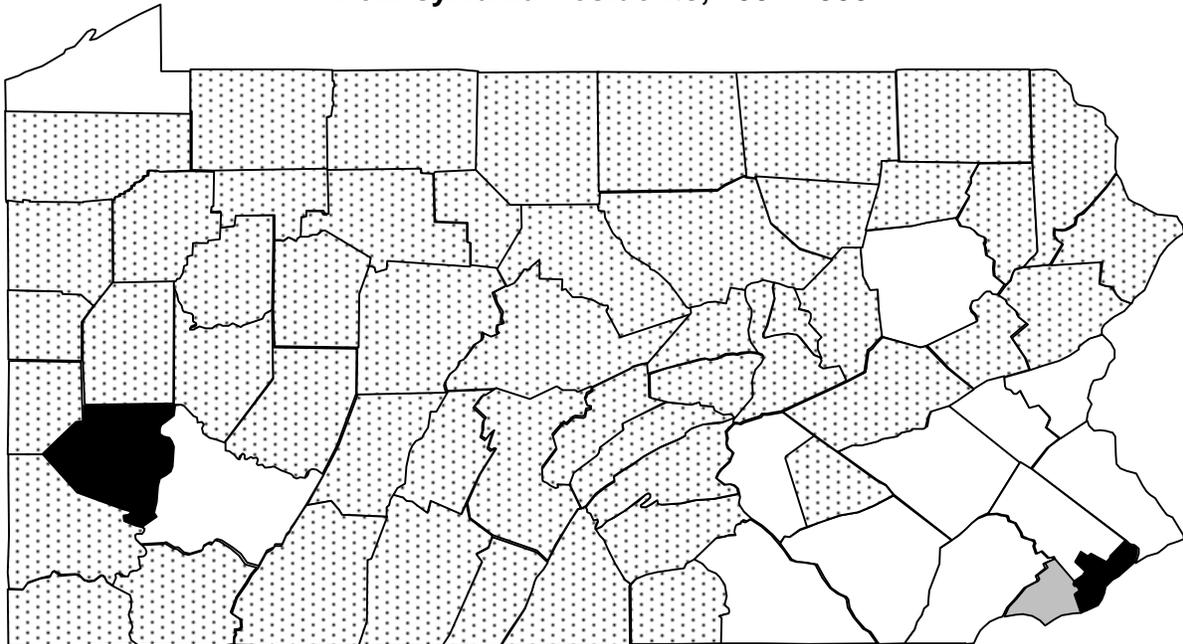
**Average Annual Age-Adjusted Death Rates  
Intentional Self-harm (Suicide)  
Pennsylvania Residents, 1997-1999**



**RATE**

	Significantly lower than the state		Not significantly higher or lower than the state
	Significantly higher than the state		Less than 20 events - statistically unreliable

**Average Annual Age-Adjusted Death Rates - Assault (Homicide)  
Pennsylvania Residents, 1997-1999**



**RATE**

	Significantly lower than the state		Not significantly higher or lower than the state
	Significantly higher than the state		Less than 20 events - statistically unreliable

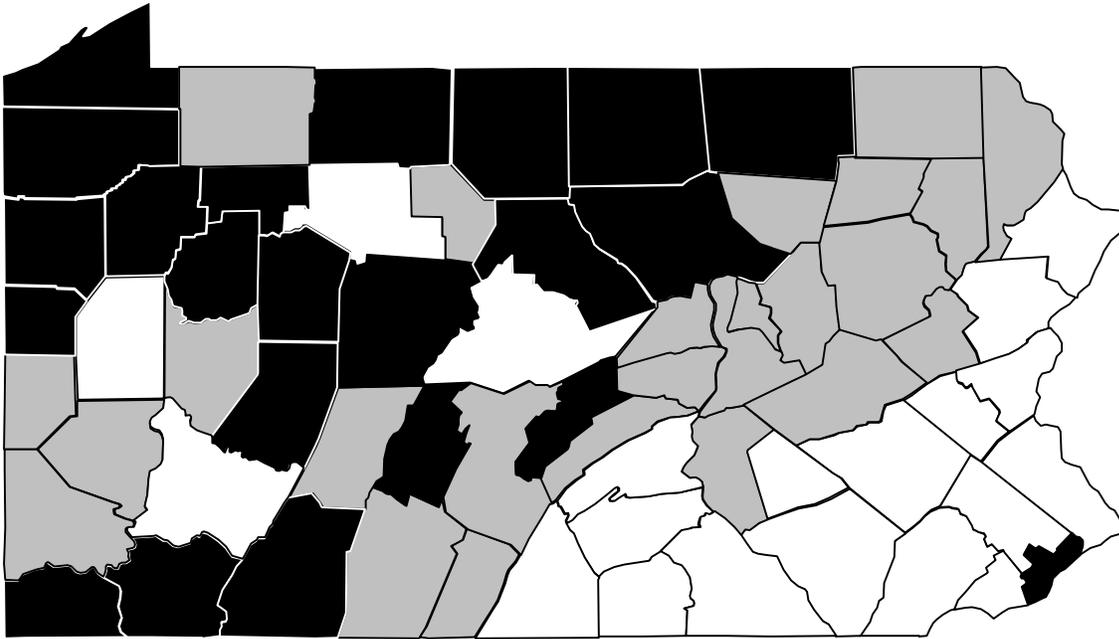
Note: Significance was determined by calculating and comparing county confidence intervals to the state rate. The calculations were not performed for counties that had less than 20 events. Rates for counties with less than 20 events are considered unreliable. See Technical Notes.

## Summary of Percent of Children by Age Below Poverty Level, 1997

Related Children				All Children <18			
<u>Ages 5-17 Below Poverty</u>	<u>No.</u>	<u>Pct.</u>	<u>μ (95%)</u>	<u>Below Poverty</u>	<u>No.</u>	<u>Pct.</u>	<u>μ (95%)</u>
Adams	1,456	8.9	-6.25 -	Adams	2,209	9.9	-7.83 -
Allegheny	29,855	14.9	0.37	Allegheny	47,491	17.1	2.06 +
Armstrong	2,254	16.2	1.37	Armstrong	3,414	18.7	2.22 +
Beaver	4,981	15.1	0.45	Beaver	7,261	16.5	-0.16
Bedford	1,570	16.3	1.22	Bedford	2,248	17.8	1.06
Berks	7,583	12.3	-5.14 -	Berks	12,062	14.1	-5.72 -
Blair	4,314	17.5	3.51 +	Blair	6,317	19.3	3.82 +
Bradford	2,217	17.4	2.43 +	Bradford	3,273	19.1	2.56 +
Bucks	6,476	5.8	-24.91 -	Bucks	10,241	6.7	-30.29 -
Butler	3,611	11.2	-5.35 -	Butler	5,275	12.1	-7.35 -
Cambria	4,607	16.2	1.96	Cambria	6,771	18.4	2.70 +
Cameron	168	16.4	0.42	Cameron	232	16.4	-0.06
Carbon	1,400	13.7	-0.92	Carbon	2,031	14.8	-1.65
Centre	1,994	11.2	-3.98 -	Centre	2,957	11.8	-5.95 -
Chester	5,077	6.6	-18.83 -	Chester	7,752	7.2	-24.14 -
Clarion	1,342	17.7	2.09 +	Clarion	1,854	18.7	1.64
Clearfield	2,698	17.5	2.78 +	Clearfield	3,943	19.3	3.02 +
Clinton	1,281	19.3	3.04 +	Clinton	1,829	20.8	3.08 +
Columbia	1,459	13.8	-0.85	Columbia	2,210	15.5	-1.03
Crawford	3,129	17.8	3.29 +	Crawford	4,601	19.6	3.60 +
Cumberland	2,311	6.7	-12.46 -	Cumberland	3,519	7.6	-15.16 -
Dauphin	6,248	14.3	-0.87	Dauphin	9,693	16.0	-1.16
Delaware	10,691	11.6	-8.05 -	Delaware	16,760	13.0	-10.12 -
Elk	705	10.4	-3.00 -	Elk	963	10.7	-4.38 -
Erie	9,045	16.7	3.66 +	Erie	13,783	18.7	4.46 +
Fayette	7,096	25.7	15.00 +	Fayette	10,739	29.8	19.61 +
Forest	208	27.0	2.80 +	Forest	298	29.6	3.23 +
Franklin	2,758	11.7	-3.94 -	Franklin	4,020	12.6	-5.59 -
Fulton	459	15.5	0.32	Fulton	628	15.9	-0.34
Greene	1,979	23.8	6.80 +	Greene	2,780	25.6	7.34 +
Huntingdon	1,328	16.9	1.54	Huntingdon	1,872	17.8	0.96
Indiana	3,147	19.2	4.67 +	Indiana	4,599	21.5	5.61 +
Jefferson	1,603	17.5	2.14 +	Jefferson	2,288	19.0	2.06 +
Juniata	556	12.7	-1.15	Juniata	791	13.6	-1.79
Lackawanna	5,026	14.4	-0.62	Lackawanna	7,671	16.3	-0.51
Lancaster	9,756	11.0	-9.37 -	Lancaster	14,619	11.8	-13.22 -
Lawrence	3,339	19.6	5.19 +	Lawrence	4,939	21.7	6.02 +
Lebanon	2,425	11.3	-4.25 -	Lebanon	3,599	12.4	-5.60 -
Lehigh	6,235	12.5	-4.25 -	Lehigh	9,893	14.2	-4.96 -
Luzerne	7,440	14.5	-0.56	Luzerne	11,367	16.4	-0.41
Lycoming	3,613	16.4	1.97 +	Lycoming	5,447	18.2	2.17 +
McKean	1,609	18.2	2.65 +	McKean	2,276	19.4	2.37 +
Mercer	3,961	18.4	4.37 +	Mercer	5,893	20.4	5.05 +
Mifflin	1,679	19.3	3.48 +	Mifflin	2,428	20.5	3.32 +
Monroe	2,702	11.5	-4.19 -	Monroe	4,379	13.4	-4.53 -
Montgomery	7,497	6.3	-24.28 -	Montgomery	11,781	7.1	-30.29 -
Montour	490	15.4	0.28	Montour	681	15.5	-0.57
Northampton	4,478	10.0	-8.41 -	Northampton	6,644	10.7	-11.51 -
Northumberland	2,536	15.5	0.74	Northumberland	3,754	17.1	0.58
Perry	1,012	11.3	-2.74 -	Perry	1,450	12.0	-3.96 -
Philadelphia	76,151	28.9	59.94 +	Philadelphia	121,716	32.8	77.24 +
Pike	850	11.6	-2.27 -	Pike	1,331	12.7	-3.12 -
Potter	733	20.6	2.87 +	Potter	1,059	22.3	3.07 +
Schuylkill	3,483	13.7	-1.45	Schuylkill	5,122	15.3	-1.86
Snyder	1,045	14.7	-0.07	Snyder	1,403	14.3	-1.78
Somerset	2,742	18.1	3.36 +	Somerset	3,893	19.5	3.21 +
Sullivan	191	19.3	1.17	Sullivan	241	16.7	0.03
Susquehanna	1,477	17.1	1.77	Susquehanna	2,187	18.9	1.94
Tioga	1,444	18.1	2.44 +	Tioga	2,047	19.2	2.10 +
Union	906	14.2	-0.40	Union	1,289	14.8	-1.31
Venango	2,127	18.7	3.44 +	Venango	2,999	20.0	3.26 +
Warren	1,237	14.8	0.00	Warren	1,784	16.0	-0.50
Washington	5,582	15.4	0.95	Washington	8,100	17.0	0.68
Wayne	1,461	17.3	1.90	Wayne	2,132	18.8	1.83
Westmoreland	8,243	13.0	-3.75 -	Westmoreland	12,557	14.8	-4.10 -
Wyoming	913	15.5	0.44	Wyoming	1,247	15.8	-0.56
York	6,418	9.5	-11.41 -	York	9,965	10.7	-14.09 -
Pennsylvania	314,407	14.8	-39.08 -	Pennsylvania	482,596	16.6	-40.35 -
United States (1997)	9,306,705	18.4		United States (1997)	14,113,067	19.9	

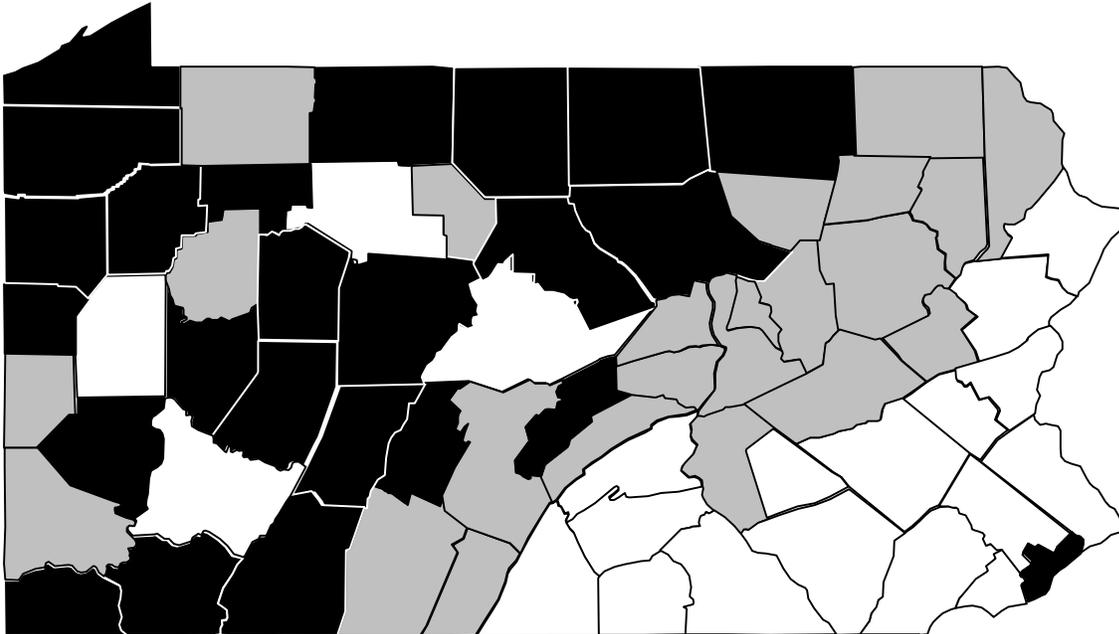
NOTE: A+ or - after the value of  $\mu$  denotes if the county rate was significantly higher or lower than the state rate. No + or - after the  $\mu$  value denotes no significant difference. State data were compared to U.S. data. Two separate formulas computed the  $\mu$  values, depending on the number of events. See Technical Notes.

**Percent of Children 5-17 Related to Persons with Income Below Poverty Level  
Pennsylvania Residents, 1997**



**PERCENT**  Significantly lower than the state     Not significantly higher or lower than the state  
 Significantly higher than the state

**Percent of Children Under 18 Living Below Poverty Level  
Pennsylvania Residents, 1997**



**PERCENT**  Significantly lower than the state     Not significantly higher or lower than the state  
 Significantly higher than the state

Note: Significance is determined by calculating county  $\mu$  values. Rates were not computed for counties that had less than 10 events. Rates for counties with less than 10 events are considered unreliable. See Technical Notes.

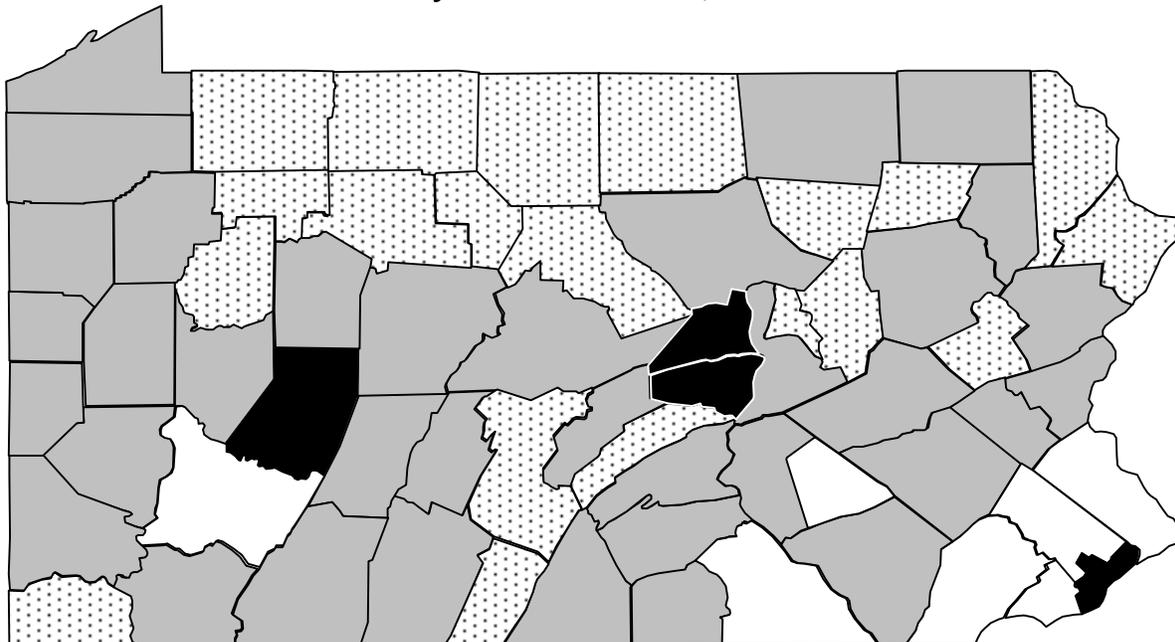
## Summary of Infant Death Rates, 1997-99 and Percent Low Birth Weight, 1999

### 1997-1999

Infant Death Rates				Percent Low Birth Weight			
	No.	Rate	$\mu$ (95%)		No.	Pct.	$\mu$ (95%)
Adams	14	4.7	-1.66	Adams	73	7.3	-0.67
Allegheny	322	7.4	0.25	Allegheny	1,201	8.3	1.78
Armstrong	15	6.3	-0.55	Armstrong	61	7.7	-0.20
Beaver	32	5.6	-1.50	Beaver	108	6.1	-2.80 -
Bedford	12	6.9	-0.20	Bedford	37	6.4	-1.27
Berks	102	7.6	0.41	Berks	317	7.0	-2.24 -
Blair	29	6.7	-0.48	Blair	113	7.5	-0.57
Bradford	10	4.6	-1.46	Bradford	39	5.1	-2.72 -
Bucks	123	5.7	-2.77 -	Bucks	529	7.2	-2.22 -
Butler	44	6.9	-0.36	Butler	160	7.4	-0.86
Cambria	28	6.1	-0.92	Cambria	103	6.8	-1.59
Cameron	2	11.1		Cameron	5	8.6	
Carbon	9	5.2		Carbon	61	10.4	2.12 +
Centre	17	4.6	-1.94	Centre	79	6.4	-1.88
Chester	87	5.2	-3.12 -	Chester	361	6.3	-4.49 -
Clarion	5	3.9		Clarion	28	6.7	-0.87
Clearfield	16	6.2	-0.63	Clearfield	61	7.1	-0.86
Clinton	9	7.0		Clinton	25	6.1	-1.34
Columbia	8	4.4		Columbia	38	6.2	-1.54
Crawford	25	7.6	0.23	Crawford	78	7.0	-1.09
Cumberland	42	6.3	-0.94	Cumberland	133	5.9	-3.52 -
Dauphin	58	6.1	-1.38	Dauphin	268	8.6	1.45
Delaware	120	5.8	-2.53 -	Delaware	493	7.2	-2.14 -
Elk	6	5.1		Elk	27	7.2	-0.50
Erie	86	8.2	1.03	Erie	283	8.0	0.22
Fayette	37	7.6	0.22	Fayette	133	8.2	0.45
Forest	3	30.3		Forest	4	11.4	
Franklin	33	6.6	-0.54	Franklin	115	7.0	-1.36
Fulton	3	6.0		Fulton	5	2.9	
Greene	8	6.4		Greene	42	10.2	1.66
Huntingdon	6	4.2		Huntingdon	33	6.6	-1.02
Indiana	34	13.1	3.45 +	Indiana	72	8.0	0.07
Jefferson	12	8.3	0.43	Jefferson	29	6.1	-1.39
Juniata	9	10.2		Juniata	22	7.7	-0.11
Lackawanna	38	5.9	-1.33	Lackawanna	167	7.9	0.00
Lancaster	136	6.9	-0.66	Lancaster	404	6.0	-5.80 -
Lawrence	29	9.3	1.32	Lawrence	93	9.2	1.44
Lebanon	20	4.6	-2.05 -	Lebanon	91	6.4	-2.03 -
Lehigh	91	8.2	1.10	Lehigh	322	8.6	1.59
Luzerne	54	5.9	-1.61	Luzerne	210	6.9	-2.04 -
Lycoming	32	8.1	0.61	Lycoming	89	6.6	-1.67
McKean	6	4.0		McKean	48	8.9	0.84
Mercer	20	4.9	-1.77	Mercer	86	6.4	-1.96 -
Mifflin	13	7.3	0.02	Mifflin	23	3.7	-3.70 -
Monroe	23	5.5	-1.36	Monroe	106	8.0	0.14
Montgomery	155	5.6	-3.32 -	Montgomery	634	6.9	-3.56 -
Montour	9	14.5		Montour	14	6.9	-0.51
Northampton	58	6.9	-0.44	Northampton	270	9.6	3.34 +
Northumberland	13	4.5	-1.72	Northumberland	71	7.1	-0.95
Perry	15	9.5	1.01	Perry	40	7.6	-0.22
Philadelphia	810	12.3	15.06 +	Philadelphia	2,458	11.4	19.09 +
Pike	4	3.9		Pike	17	4.8	-1.96 -
Potter	2	3.0		Potter	11	5.1	-1.47
Schuylkill	34	8.0	0.51	Schuylkill	108	7.6	-0.42
Snyder	16	12.8	2.28 +	Snyder	35	8.3	0.29
Somerset	18	7.3	-0.02	Somerset	69	8.4	0.55
Sullivan	0	-		Sullivan	2	3.8	
Susquehanna	10	7.5	0.09	Susquehanna	25	5.7	-1.61
Tioga	4	3.3		Tioga	24	6.2	-1.20
Union	14	12.8	2.14 +	Union	22	6.0	-1.26
Venango	12	6.3	-0.52	Venango	39	5.9	-1.81
Warren	7	4.8		Warren	23	4.8	-2.38 -
Washington	35	5.4	-1.79	Washington	153	7.3	-1.02
Wayne	7	4.6		Wayne	32	6.7	-0.95
Westmoreland	58	5.2	-2.52 -	Westmoreland	276	7.7	-0.44
Wyoming	5	5.0		Wyoming	22	6.7	-0.75
York	57	4.3	-4.11 -	York	347	7.8	-0.25
Pennsylvania	3,171	7.3	0.78	Pennsylvania	11,467	7.9	4.31 +
United States (1998)	28,371	7.2		United States (1999)	301,183	7.6	

NOTE: A+ or - after the value of  $\mu$  denotes if the county rate was significantly higher or lower than the state rate. No + or - after the  $\mu$  value denotes no significant difference. State data were compared to U.S. data. Two separate formulas computed the  $\mu$  values, depending on the number of events. See Technical Notes.

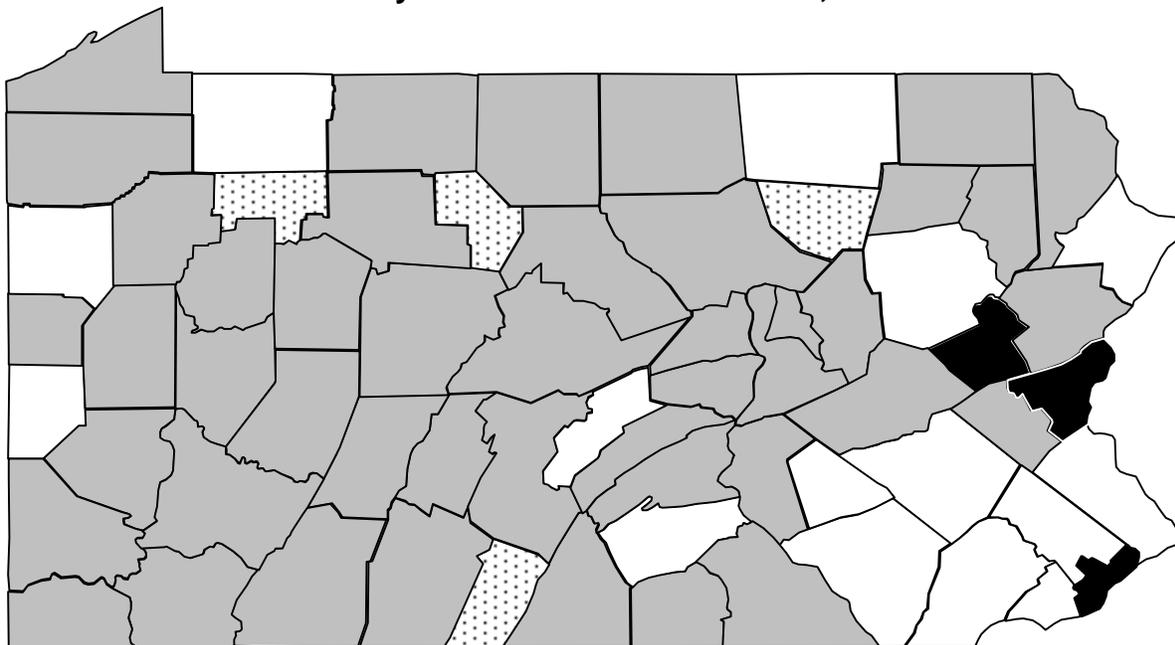
## Infant Death Rates Pennsylvania Residents, 1997-1999



**RATE**

Significantly lower than the state	Not significantly higher or lower than the state
Significantly higher than the state	Less than 10 events - statistically unreliable

## Percent Low Birth Weight Pennsylvania Resident Live Births, 1999



**PERCENT**

Significantly lower than the state	Not significantly higher or lower than the state
Significantly higher than the state	Less than 10 events - statistically unreliable

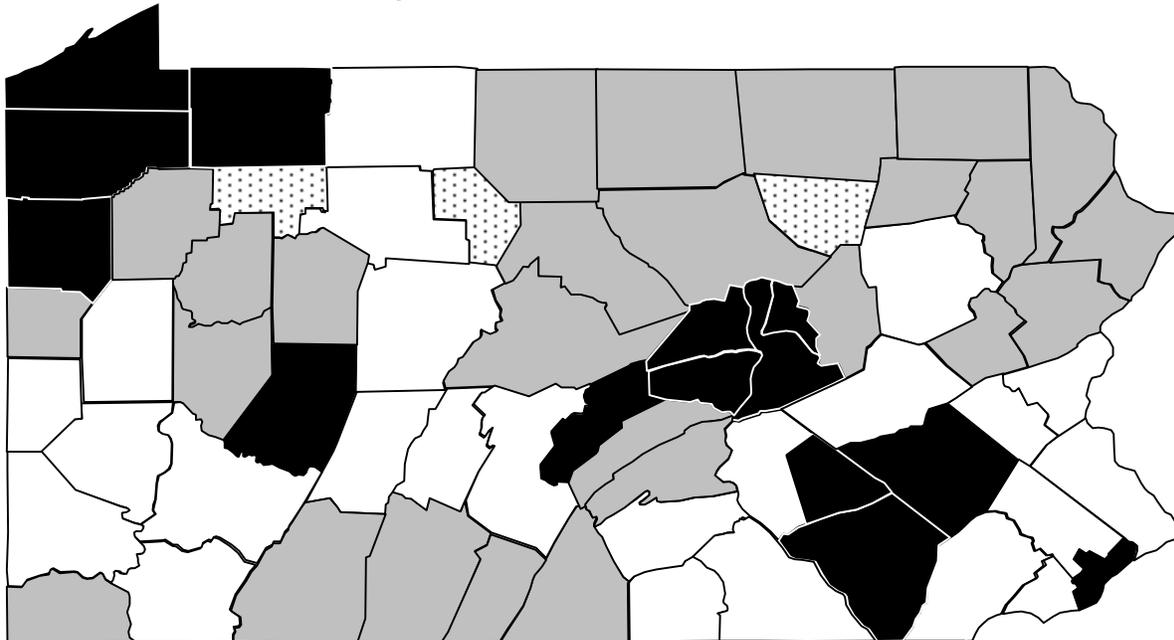
Note: Significance is determined by calculating county  $\mu$  values. Rates were not computed for counties that had less than 10 events. Rates for counties with less than 10 events are considered unreliable. See Technical Notes.

## Summary of Percent No Prenatal Care in First Trimester and Teen Births, 1999

No Prenatal Care				Births to			
First Trimester	No.	Pct.	$\mu$ (95%)	Mothers <18	No.	Pct.	$\mu$ (95%)
Adams	101	10.4	-3.89 -	Adams	34	3.4	-0.33
Allegheny	1,325	9.4	-18.07 -	Allegheny	468	3.2	-2.58 -
Armstrong	105	13.5	-1.02	Armstrong	24	3.0	-0.84
Beaver	157	9.1	-6.71 -	Beaver	53	3.0	-1.31
Bedford	75	13.1	-1.06	Bedford	13	2.3	-1.71
Berks	1,199	27.8	24.45 +	Berks	212	4.7	3.96 +
Blair	114	7.6	-7.85 -	Blair	51	3.4	-0.42
Bradford	106	14.1	-0.54	Bradford	42	5.5	2.79 +
Bucks	538	7.9	-16.10 -	Bucks	119	1.6	-9.18 -
Butler	191	9.3	-7.02 -	Butler	44	2.0	-3.80 -
Cambria	153	10.3	-4.93 -	Cambria	48	3.1	-0.93
Cameron	2	3.4		Cameron	2	3.4	
Carbon	90	15.9	0.42	Carbon	24	4.1	0.61
Centre	164	13.9	-0.87	Centre	27	2.2	-2.63 -
Chester	640	11.7	-6.48 -	Chester	100	1.7	-7.72 -
Clarion	49	11.7	-1.62	Clarion	7	1.7	
Clearfield	87	10.3	-3.40 -	Clearfield	26	3.0	-0.90
Clinton	70	17.5	1.26	Clinton	17	4.1	0.55
Columbia	104	17.1	1.61	Columbia	16	2.6	-1.32
Crawford	230	21.1	5.85 +	Crawford	40	3.6	-0.03
Cumberland	253	11.4	-4.52 -	Cumberland	44	2.0	-4.11 -
Dauphin	409	13.5	-2.04 -	Dauphin	141	4.5	2.70 +
Delaware	854	13.0	-4.11 -	Delaware	200	2.9	-3.10 -
Elk	20	5.4	-4.71 -	Elk	7	1.9	
Erie	588	17.2	3.97 +	Erie	157	4.5	2.87 +
Fayette	195	12.1	-3.05 -	Fayette	89	5.5	3.98 +
Forest	8	22.9		Forest	2	5.7	
Franklin	235	14.3	-0.57	Franklin	55	3.3	-0.59
Fulton	20	11.7	-1.06	Fulton	4	2.3	
Greene	64	15.8	0.62	Greene	17	4.1	0.56
Huntingdon	48	9.8	-2.92 -	Huntingdon	22	4.4	0.95
Indiana	160	17.9	2.61 +	Indiana	19	2.1	-2.37 -
Jefferson	54	11.5	-1.79	Jefferson	18	3.8	0.22
Juniata	52	18.3	1.59	Juniata	5	1.8	
Lackawanna	311	15.1	0.39	Lackawanna	65	3.1	-1.28
Lancaster	1,258	19.0	9.69 +	Lancaster	200	3.0	-2.65 -
Lawrence	139	14.1	-0.61	Lawrence	39	3.8	0.41
Lebanon	246	17.5	2.86 +	Lebanon	56	3.9	0.65
Lehigh	392	11.1	-6.18 -	Lehigh	146	3.9	0.99
Luzerne	308	10.3	-6.95 -	Luzerne	96	3.2	-1.25
Lycoming	213	16.6	1.81	Lycoming	55	4.1	0.95
McKean	59	11.4	-2.28 -	McKean	25	4.6	1.28
Mercer	263	19.8	5.11 +	Mercer	39	2.9	-1.35
Mifflin	128	21.0	4.32 +	Mifflin	20	3.2	-0.48
Monroe	219	16.7	1.94	Monroe	33	2.4	-2.26 -
Montgomery	796	9.5	-13.79 -	Montgomery	142	1.5	-10.82 -
Montour	42	20.8	2.18 +	Montour	4	2.0	
Northampton	316	11.5	-4.87 -	Northampton	108	3.8	0.57
Northumberland	171	17.1	2.04 +	Northumberland	36	3.6	-0.04
Perry	73	14.1	-0.37	Perry	20	3.8	0.26
Philadelphia	5,211	25.5	43.17 +	Philadelphia	1,575	7.3	29.23 +
Pike	51	14.8	0.12	Pike	7	2.0	
Potter	23	11.1	-1.47	Potter	10	4.6	0.80
Schuylkill	134	9.5	-5.62 -	Schuylkill	49	3.4	-0.34
Snyder	94	22.8	4.13 +	Snyder	9	2.1	
Somerset	106	13.2	-1.28	Somerset	25	3.1	-0.81
Sullivan	6	11.8		Sullivan	0	-	
Susquehanna	70	16.4	0.78	Susquehanna	16	3.7	0.08
Tioga	49	12.9	-1.06	Tioga	7	1.8	
Union	85	23.9	4.37 +	Union	8	2.2	
Venango	103	16.1	0.93	Venango	18	2.7	-1.18
Warren	87	18.6	2.01 +	Warren	9	1.9	
Washington	204	10.0	-6.11 -	Washington	47	2.3	-3.25 -
Wayne	79	16.7	1.06	Wayne	14	2.9	-0.79
Westmoreland	308	8.7	-10.24 -	Westmoreland	75	2.1	-4.75 -
Wyoming	41	12.7	-1.06	Wyoming	11	3.4	-0.24
York	535	12.6	-4.11 -	York	167	3.7	0.36
Pennsylvania	20,580	14.8	-20.04 -	Pennsylvania	5,278	3.6	-14.84 -
United States (1999)	646,377	16.8		United States (1999)	172,642	4.4	

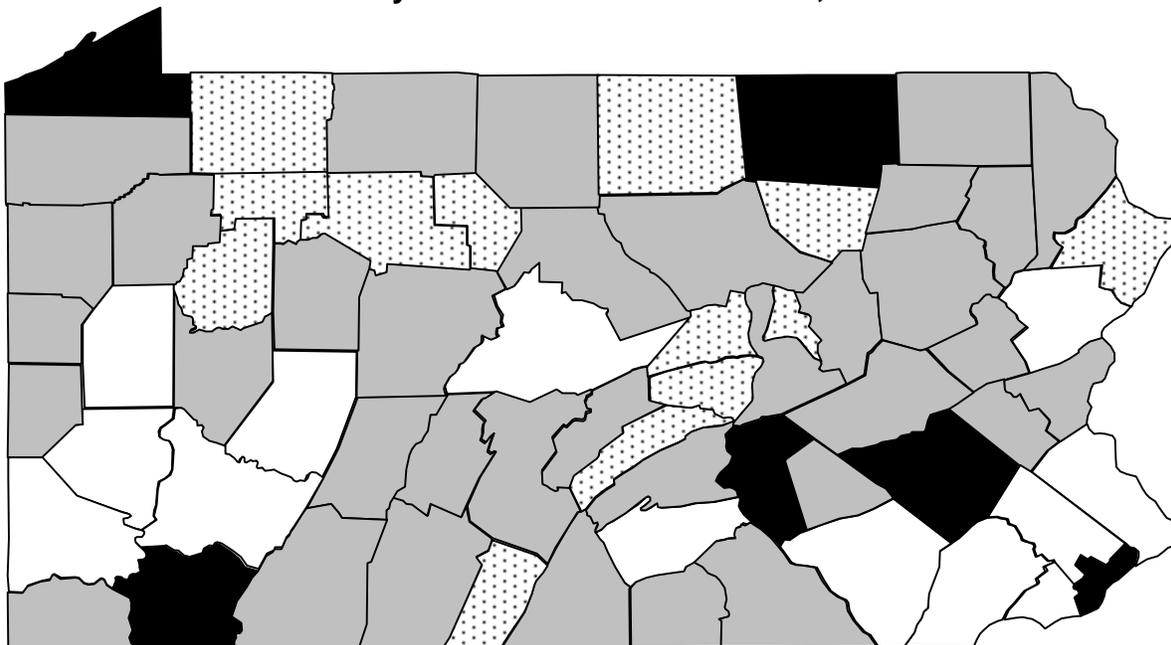
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**Percent with No Prenatal Care in First Trimester  
Pennsylvania Resident Live Births, 1999**



**PERCENT** Significantly lower than the state      Not significantly higher or lower than the state  
 Significantly higher than the state      Less than 10 events - statistically unreliable

**Percent of Births to Mothers Under 18  
Pennsylvania Resident Live Births, 1999**



**PERCENT** Significantly lower than the state      Not significantly higher or lower than the state  
 Significantly higher than the state      Less than 10 events - statistically unreliable

Note: Significance is determined by calculating county  $\mu$  values. Rates were not computed for counties that had less than 10 events. Rates for counties with less than 10 events are considered unreliable. See Technical Notes.

## Work-Related Injury Death Rates and Infant Death Rates, Total and By Race/Ethnicity

Work-Related Injury Deaths	1997-99		1999		1999 Infant Deaths:	
	No.	Rate	Infant Deaths	No. Rate	White	No. Rate
Adams	8	3.1	Adams	11 11.0	Allegheny	62 5.5
Allegheny	60	1.6	Allegheny	116 8.0	Berks	23 5.5
Armstrong	8	3.6	Armstrong	7 8.8	Chester	19 3.7
Beaver	8	1.4	Beaver	11 6.2	Dauphin	11 4.8
Bedford	8	5.4	Bedford	7 12.1	Delaware	17 3.4
Berks	18	1.7	Berks	29 6.4	Erie	21 6.8
Blair	8	2.0	Blair	10 6.7	Lancaster	42 6.6
Bradford	4	2.1	Bradford	1 1.3	Lehigh	21 6.3
Bucks	15	0.9	Bucks	36 4.9	Montgomery	40 5.1
Butler	7	1.4	Butler	18 8.4	Northampton	13 5.0
Cambria	13	2.8	Cambria	7 4.6	Philadelphia	51 5.8
Cameron	0	-	Cameron	0 -	Pennsylvania	657 5.5
Carbon	8	4.5	Carbon	2 3.4	U.S. (1998)	18,561 6.0
Centre	5	1.3	Centre	8 6.5		
Chester	17	1.3	Chester	24 4.2	<b>Black</b>	<b>No. Rate</b>
Clarion	3	2.4	Clarion	0 -	Allegheny	49 18.1
Clearfield	2	0.8	Clearfield	9 10.4	Chester	5 13.7
Clinton	5	4.5	Clinton	5 12.1	Dauphin	4 5.7
Columbia	4	2.1	Columbia	3 4.9	Delaware	20 14.3
Crawford	8	3.0	Crawford	9 8.1	Erie	10 26.0
Cumberland	15	2.4	Cumberland	9 4.0	Montgomery	14 17.9
Dauphin	15	2.0	Dauphin	15 4.8	Philadelphia	187 16.7
Delaware	26	1.6	Delaware	37 5.4	Pennsylvania	335 16.7
Elk	4	3.9	Elk	1 2.7	U.S. (1998)	8,726 14.3
Erie	13	1.6	Erie	31 8.8		
Fayette	13	3.0	Fayette	13 8.0	<b>Hispanic</b>	<b>No. Rate</b>
Forest	1	6.7	Forest	0 -	Berks	11 15.0
Franklin	4	1.0	Franklin	9 5.4	Lancaster	1 1.7
Fulton	5	11.5	Fulton	0 -	Lehigh	6 8.6
Greene	3	2.4	Greene	2 4.9	Northampton	3 9.5
Huntingdon	2	1.5	Huntingdon	2 4.0	Philadelphia	18 7.1
Indiana	5	1.9	Indiana	12 13.3	Pennsylvania	60 8.4
Jefferson	4	2.9	Jefferson	7 14.7	U.S. (1998)	4,371 6.0
Juniata	3	4.5	Juniata	4 14.0		
Lackawanna	17	2.7	Lackawanna	13 6.1	<b>1997-99 Infant Deaths:</b>	
Lancaster	24	1.8	Lancaster	45 6.6	<b>White</b>	<b>No. Rate</b>
Lawrence	3	1.1	Lawrence	7 6.9	Allegheny	171 5.0
Lebanon	7	2.0	Lebanon	7 4.9	Berks	85 6.8
Lehigh	23	2.6	Lehigh	26 6.9	Chester	70 4.7
Luzerne	11	1.2	Luzerne	20 6.6	Dauphin	35 5.1
Lycoming	10	2.8	Lycoming	9 6.7	Delaware	63 4.1
McKean	4	2.9	McKean	1 1.9	Erie	57 6.1
Mercer	5	1.4	Mercer	5 3.7	Lancaster	124 6.6
Mifflin	4	2.8	Mifflin	4 6.5	Lehigh	78 7.8
Monroe	12	3.2	Monroe	10 7.4	Montgomery	117 5.0
Montgomery	27	1.3	Montgomery	55 6.0	Northampton	52 6.6
Montour	2	3.8	Montour	3 14.8	Philadelphia	185 6.9
Northampton	21	2.7	Northampton	15 5.3	Pennsylvania	2,064 5.7
Northumberland	7	2.5	Northumberland	4 4.0		
Perry	6	4.5	Perry	9 17.2	<b>Black</b>	<b>No. Rate</b>
Philadelphia	93	2.2	Philadelphia	252 11.6	Allegheny	141 17.4
Pike	3	2.5	Pike	0 -	Chester	17 14.9
Potter	1	1.9	Potter	1 4.6	Dauphin	20 9.0
Schuylkill	10	2.2	Schuylkill	12 8.4	Delaware	56 13.7
Snyder	4	3.5	Snyder	7 16.6	Erie	29 27.5
Somerset	10	4.2	Somerset	5 6.1	Montgomery	36 15.1
Sullivan	2	11.0	Sullivan	0 -	Philadelphia	572 16.8
Susquehanna	1	0.8	Susquehanna	3 6.9	Pennsylvania	1,002 16.5
Tioga	3	2.4	Tioga	1 2.6		
Union	1	0.8	Union	3 8.2	<b>Hispanic</b>	<b>No. Rate</b>
Venango	4	2.3	Venango	7 10.6	Berks	27 12.1
Warren	1	0.8	Warren	1 2.1	Lancaster	14 8.6
Washington	17	2.8	Washington	8 3.8	Lehigh	19 9.7
Wayne	6	4.4	Wayne	2 4.2	Northampton	6 6.6
Westmoreland	20	1.8	Westmoreland	19 5.3	Philadelphia	70 9.5
Wyoming	4	4.6	Wyoming	2 6.1	Pennsylvania	185 9.0
York	25	2.2	York	14 3.1		
Pennsylvania	715	2.0	Pennsylvania	1,025 7.1		
United States (1999)	6,023	2.2	United States (1998)	28,371 7.2		

NOTES: Rates based on small numbers can be unreliable. See Technical Notes. Hispanics can be of any race. Unknown county included in state total.

## Summary of Average Annual Incidence Rates for Selected Diseases, 1997-1999

<u>Syphilis</u>	<u>No.</u>	<u>Rate</u>	<u>AIDS</u>	<u>No.</u>	<u>Rate</u>	<u>Tuberculosis</u>	<u>No.</u>	<u>Rate</u>
Adams	0	-	Adams	5	1.9	Adams	10	3.8
Allegheny	7	0.2	Allegheny	269	7.1	Allegheny	128	3.4
Armstrong	0	-	Armstrong	3	1.4	Armstrong	5	2.3
Beaver	0	-	Beaver	13	2.4	Beaver	8	1.4
Bedford	0	-	Bedford	1	0.7	Bedford	2	1.3
Berks	1	0.1	Berks	100	9.4	Berks	36	3.4
Blair	0	-	Blair	8	2.0	Blair	10	2.6
Bradford	0	-	Bradford	0	-	Bradford	1	0.5
Bucks	8	0.5	Bucks	85	4.8	Bucks	52	2.9
Butler	0	-	Butler	7	1.4	Butler	6	1.2
Cambria	0	-	Cambria	21	4.5	Cambria	13	2.8
Cameron	0	-	Cameron	0	-	Cameron	0	-
Carbon	0	-	Carbon	5	2.8	Carbon	1	0.6
Centre	0	-	Centre	15	3.8	Centre	12	3.0
Chester	0	-	Chester	67	5.3	Chester	21	1.7
Clarion	1	0.8	Clarion	0	-	Clarion	1	0.8
Clearfield	0	-	Clearfield	10	4.1	Clearfield	4	1.7
Clinton	0	-	Clinton	0	-	Clinton	1	0.9
Columbia	0	-	Columbia	5	2.6	Columbia	3	1.6
Crawford	0	-	Crawford	9	3.4	Crawford	6	2.2
Cumberland	0	-	Cumberland	74	11.8	Cumberland	14	2.2
Dauphin	1	0.1	Dauphin	135	18.3	Dauphin	32	4.3
Delaware	6	0.4	Delaware	199	12.2	Delaware	56	3.4
Elk	0	-	Elk	1	1.0	Elk	1	1.0
Erie	1	0.1	Erie	56	6.7	Erie	38	4.6
Fayette	0	-	Fayette	3	0.7	Fayette	6	1.4
Forest	0	-	Forest	0	-	Forest	0	-
Franklin	0	-	Franklin	11	2.9	Franklin	11	2.9
Fulton	0	-	Fulton	1	2.3	Fulton	0	-
Greene	0	-	Greene	3	2.4	Greene	5	4.0
Huntingdon	0	-	Huntingdon	13	9.7	Huntingdon	5	3.7
Indiana	0	-	Indiana	4	1.5	Indiana	1	0.4
Jefferson	0	-	Jefferson	1	0.7	Jefferson	3	2.2
Juniata	0	-	Juniata	1	1.5	Juniata	3	4.5
Lackawanna	2	0.3	Lackawanna	23	3.7	Lackawanna	16	2.6
Lancaster	3	0.2	Lancaster	95	6.9	Lancaster	31	2.3
Lawrence	0	-	Lawrence	7	2.5	Lawrence	3	1.1
Lebanon	0	-	Lebanon	24	6.8	Lebanon	5	1.4
Lehigh	1	0.1	Lehigh	105	11.7	Lehigh	36	4.0
Luzerne	1	0.1	Luzerne	32	3.4	Luzerne	44	4.7
Lycoming	0	-	Lycoming	33	9.4	Lycoming	2	0.6
McKean	0	-	McKean	3	2.2	McKean	5	3.6
Mercer	0	-	Mercer	5	1.4	Mercer	6	1.6
Mifflin	0	-	Mifflin	3	2.1	Mifflin	10	7.1
Monroe	1	0.3	Monroe	16	4.2	Monroe	9	2.4
Montgomery	4	0.2	Montgomery	82	3.8	Montgomery	51	2.4
Montour	0	-	Montour	1	1.9	Montour	3	5.6
Northampton	0	-	Northampton	34	4.4	Northampton	17	2.2
Northumberland	0	-	Northumberland	17	6.0	Northumberland	4	1.4
Perry	0	-	Perry	3	2.3	Perry	2	1.5
Philadelphia	266	6.2	Philadelphia	2,984	69.3	Philadelphia	599	13.9
Pike	0	-	Pike	3	2.5	Pike	1	0.8
Potter	0	-	Potter	0	-	Potter	2	3.9
Schuylkill	0	-	Schuylkill	23	5.1	Schuylkill	14	3.1
Snyder	0	-	Snyder	1	0.9	Snyder	2	1.7
Somerset	0	-	Somerset	19	7.9	Somerset	11	4.6
Sullivan	0	-	Sullivan	0	-	Sullivan	0	-
Susquehanna	0	-	Susquehanna	1	0.8	Susquehanna	1	0.8
Tioga	0	-	Tioga	2	1.6	Tioga	0	-
Union	0	-	Union	22	17.9	Union	2	1.6
Venango	0	-	Venango	2	1.2	Venango	0	-
Warren	0	-	Warren	2	1.5	Warren	2	1.5
Washington	0	-	Washington	9	1.5	Washington	17	2.8
Wayne	0	-	Wayne	17	12.4	Wayne	3	2.2
Westmoreland	0	-	Westmoreland	19	1.7	Westmoreland	20	1.8
Wyoming	0	-	Wyoming	1	1.1	Wyoming	1	1.1
York	2	0.2	York	83	7.4	York	16	1.4
Pennsylvania	305	0.8	Pennsylvania	4,796	13.3	Pennsylvania	1,430	4.0
U.S. (1998)	6,993	2.6	U.S. (1998)	46,521	17.2	U.S. (1998)	18,361	6.8

NOTES: Rates based on small numbers can be unreliable. See the Technical Notes section.

## Summary of Average Annual Incidence Rates for Measles, 1997-1999

<u>Measles</u>	<u>No.</u>	<u>Rate</u>	<u>Measles</u>	<u>No.</u>	<u>Rate</u>	<u>Measles</u>	<u>No.</u>	<u>Rate</u>
Adams	0	-	Elk	0	-	Montour	0	-
Allegheny	3	0.08	Erie	0	-	Northampton	1	0.13
Armstrong	0	-	Fayette	0	-	Northumberland	0	-
Beaver	0	-	Forest	0	-	Perry	0	-
Bedford	0	-	Franklin	0	-	Philadelphia	8	0.19
Berks	0	-	Fulton	0	-	Pike	0	-
Blair	0	-	Greene	0	-	Potter	0	-
Bradford	0	-	Huntingdon	0	-	Schuylkill	0	-
Bucks	0	-	Indiana	0	-	Snyder	0	-
Butler	0	-	Jefferson	0	-	Somerset	0	-
Cambria	0	-	Juniata	0	-	Sullivan	0	-
Cameron	0	-	Lackawanna	0	-	Susquehanna	0	-
Carbon	0	-	Lancaster	0	-	Tioga	0	-
Centre	0	-	Lawrence	0	-	Union	0	-
Chester	0	-	Lebanon	0	-	Venango	0	-
Clarion	0	-	Lehigh	0	-	Warren	0	-
Clearfield	0	-	Luzerne	0	-	Washington	0	-
Clinton	0	-	Lycoming	0	-	Wayne	0	-
Columbia	0	-	McKean	0	-	Westmoreland	0	-
Crawford	0	-	Mercer	0	-	Wyoming	0	-
Cumberland	0	-	Mifflin	0	-	York	0	-
Dauphin	0	-	Monroe	0	-			
Delaware	0	-	Montgomery	1	0.05	Pennsylvania	13	0.04
						U.S. (1998)	100	0.04

## Summary of Selected Birth Statistics by Race and Hispanic Origin of Mother, 1999

<u>Low Birth Weight</u>	<u>No.</u>	<u>Pct.</u>	<u>No Prenatal Care First Trimester</u>	<u>No.</u>	<u>Pct.</u>	<u>Births to Mother &lt;18</u>	<u>No.</u>	<u>Pct.</u>
<b>White:</b>			<b>White:</b>			<b>White:</b>		
Allegheny	768	6.8	Allegheny	756	6.9	Allegheny	192	1.7
Berks	281	6.7	Berks	1,078	26.7	Berks	180	4.3
Chester	302	5.9	Chester	527	10.7	Chester	71	1.4
Dauphin	169	7.4	Dauphin	221	10.0	Dauphin	65	2.9
Delaware	273	5.4	Delaware	377	7.8	Delaware	73	1.5
Erie	219	7.1	Erie	460	15.2	Erie	104	3.4
Lancaster	373	5.8	Lancaster	1,208	19.3	Lancaster	173	2.7
Lehigh	271	8.1	Lehigh	320	10.2	Lehigh	123	3.7
Montgomery	496	6.4	Montgomery	557	7.9	Montgomery	83	1.1
Northampton	238	9.1	Northampton	269	10.5	Northampton	89	3.4
Philadelphia	644	7.3	Philadelphia	1,504	17.6	Philadelphia	448	5.1
Pennsylvania	8,170	6.8	Pennsylvania	14,299	12.4	Pennsylvania	3,253	2.7
U.S. (1999)	205,561	6.6	U.S. (1999)	456,073	14.9	U.S. (1999)	116,363	3.7
<b>Black:</b>			<b>Black:</b>			<b>Black:</b>		
Allegheny	388	14.3	Allegheny	520	20.1	Allegheny	261	9.6
Chester	44	12.1	Chester	92	27.7	Chester	27	7.4
Dauphin	88	12.6	Dauphin	161	24.2	Dauphin	70	10.0
Delaware	192	13.7	Delaware	412	31.2	Delaware	121	8.6
Erie	61	15.9	Erie	124	34.3	Erie	52	13.5
Montgomery	103	13.2	Montgomery	169	23.7	Montgomery	53	6.8
Philadelphia	1,689	15.1	Philadelphia	3,242	31.0	Philadelphia	1,070	9.5
Pennsylvania	2,883	14.4	Pennsylvania	5,338	28.4	Pennsylvania	1,887	9.4
U.S. (1999)	79,322	13.1	U.S. (1999)	150,171	25.9	U.S. (1999)	49,896	8.2
<b>Hispanic:</b>			<b>Hispanic:</b>			<b>Hispanic:</b>		
Berks	64	8.7	Berks	325	47.6	Berks	89	12.1
Lancaster	54	9.2	Lancaster	65	11.7	Lancaster	65	11.1
Lehigh	79	11.4	Lehigh	120	19.1	Lehigh	73	10.5
Northampton	37	11.7	Northampton	59	19.7	Northampton	31	9.8
Philadelphia	252	9.9	Philadelphia	649	26.5	Philadelphia	271	10.7
Pennsylvania	653	9.2	Pennsylvania	1,765	26.1	Pennsylvania	683	9.6
U.S. (1999)	48,688	6.4	U.S. (1999)	188,323	25.6	U.S. (1999)	50,954	6.7

NOTES: Rates/percents based on small numbers can be unreliable. See the Technical Notes section. Hispanics can be of any race.

## Health Status Indicators by Department of Health District

### Total Number of Deaths and Average Annual Age-Adjusted Death Rates All Causes and Selected Causes, 1997-1999

All Causes	No.	Rate	CI (95%)	
North Central	19,713	849.1	837.25-860.95	-
Northeastern	47,960	856.5	848.83-864.17	-
Northwestern	30,955	875.6	865.85-885.35	
South Central	43,350	829.5	821.69-837.31	-
Southeastern	143,958	892.4	887.79-897.01	+
Southwestern	97,220	860.6	855.19-866.01	-
Pennsylvania	383,156	869.0	866.25-871.75	-
U.S. (1998)	2,337,256	876.0	874.88-877.12	

#### Cardiovascular

Disease	No.	Rate	CI (95%)	
North Central	8,491	357.7	350.09-365.31	+
Northeastern	21,263	364.8	359.90-369.70	+
Northwestern	13,402	367.2	360.98-373.42	+
South Central	18,128	340.7	335.74-345.66	-
Southeastern	55,848	335.8	333.01-338.59	-
Southwestern	41,383	352.5	349.10-355.90	+
Pennsylvania	158,515	347.9	346.19-349.61	-
U.S. (1998)	940,565	353.6	352.89-354.31	

Lung Cancer	No.	Rate	CI (95%)	
North Central	1,089	48.2	45.34-51.06	-
Northeastern	2,796	52.0	50.07-53.93	-
Northwestern	1,967	57.7	55.15-60.25	
South Central	2,607	50.6	48.66-52.54	-
Southeastern	9,419	60.1	58.89-61.31	+
Southwestern	6,397	58.3	56.87-59.73	+
Pennsylvania	24,275	56.7	55.99-57.41	-
U.S. (1998)	154,561	57.6	57.31-57.89	

Diseases of Heart	No.	Rate	CI (95%)	
North Central	6,673	282.2	275.43-288.97	+
Northeastern	17,225	296.4	291.97-300.83	+
Northwestern	10,418	286.9	281.39-292.41	+
South Central	14,194	267.2	262.80-271.60	-
Southeastern	42,902	258.7	256.25-261.15	-
Southwestern	33,231	284.0	280.95-287.05	+
Pennsylvania	124,643	274.4	272.88-275.92	+
U.S. (1998)	724,859	272.5	271.87-273.13	

Breast Cancer	No.	Rate	CI (95%)	
North Central	338	27.5	24.57-30.43	
Northeastern	858	28.6	26.69-30.51	
Northwestern	549	29.1	26.67-31.53	
South Central	775	26.4	24.54-28.26	-
Southeastern	2,841	31.8	30.63-32.97	+
Southwestern	1,719	28.8	27.44-30.16	
Pennsylvania	7,080	29.5	28.81-30.19	+
U.S. (1998)	41,737	27.9	27.63-28.17	

Stroke	No.	Rate	CI (95%)	
North Central	1,412	58.6	55.54-61.66	+
Northeastern	2,760	46.8	45.05-48.55	-
Northwestern	2,153	57.8	55.36-60.24	+
South Central	2,940	54.9	52.92-56.88	
Southeastern	9,807	58.3	57.15-59.45	+
Southwestern	6,008	50.4	49.13-51.67	-
Pennsylvania	25,080	54.3	53.63-54.97	-
U.S. (1998)	158,448	59.6	59.31-59.89	

Intentional Self-harm (Suicide)	No.	Rate	CI (95%)	
North Central	209	10.4	8.99-11.81	
Northeastern	525	12.1	11.06-13.14	+
Northwestern	330	11.6	10.35-12.85	
South Central	460	10.0	9.09-10.91	-
Southeastern	1,503	10.6	10.06-11.14	
Southwestern	1,011	11.7	10.98-12.42	
Pennsylvania	4,038	11.0	10.66-11.34	
U.S. (1998)	30,575	11.3	11.17-11.43	

#### Motor Vehicle

Accidents	No.	Rate	CI (95%)	
North Central	332	15.9	14.19-17.61	+
Northeastern	620	14.2	13.08-15.32	+
Northwestern	518	17.6	16.08-19.12	+
South Central	733	16.0	14.84-17.16	+
Southeastern	1,617	11.3	10.75-11.85	-
Southwestern	971	11.2	10.50-11.90	-
Pennsylvania	4,791	13.0	12.63-13.37	-
U.S. (1998)	43,501	16.1	15.95-16.25	

Assault (Homicide)	No.	Rate	CI (95%)	
North Central	47	2.4	1.71-3.09	-
Northeastern	129	3.1	2.57-3.63	-
Northwestern	83	3.0	2.35-3.65	-
South Central	114	2.6	2.12-3.08	-
Southeastern	1,334	9.6	9.08-10.12	+
Southwestern	348	4.3	3.85-4.75	-
Pennsylvania	2,055	5.8	5.55-6.05	-
U.S. (1998)	18,272	6.7	6.60-6.80	

NOTES: A + or - after the confidence interval (CI) denotes if the district age-adjusted death rate was significantly higher or lower than the state rates. No + or - after a CI denotes no significant difference. State data were compared to U.S. data. See Technical Notes section.

# Health Status Indicators by Department of Health District

## Infant Deaths, Number and Average Annual Rate By Race and Hispanic Origin, 1997-1999

<u>All Infant Deaths</u>	<u>No.</u>	<u>Rate</u>	<u>m (95%)</u>
North Central	134	6.5	-1.35
Northeastern	299	6.5	-2.01 -
Northwestern	229	7.0	-0.64
South Central	311	5.8	-4.10 -
Southeastern	1,567	8.3	5.12 +
Southwestern	631	6.9	-1.42
Pennsylvania	3,171	7.3	0.78
U.S. (1998)	28,371	7.2	

<u>White</u>	<u>No.</u>	<u>Rate</u>	<u>Black</u>	<u>No.</u>	<u>Rate</u>	<u>Hispanic</u>	<u>No.</u>	<u>Rate</u>
North Central	120	6.0	North Central	6	15.1	North Central	3	17.4
Northeastern	265	6.1	Northeastern	31	19.3	Northeastern	34	9.7
Northwestern	192	6.3	Northwestern	36	22.2	Northwestern	3	7.0
South Central	262	5.3	South Central	38	11.2	South Central	14	6.7
Southeastern	776	5.7	Southeastern	724	16.4	Southeastern	124	9.0
Southwestern	449	5.6	Southwestern	167	17.3	Southwestern	7	10.9
Pennsylvania	2,064	5.7	Pennsylvania	1,002	16.5	Pennsylvania	185	9.0
U.S. (1998)	18,561	6.0	U.S. (1998)	8,726	14.3	U.S. (1998)	4,371	6.0

## Infant Deaths, Number and Rate By Race and Hispanic Origin, 1999

<u>All Infant Deaths</u>	<u>No.</u>	<u>Rate</u>	<u>m (95%)</u>
North Central	45	6.4	-0.69
Northeastern	93	6.1	-1.47
Northwestern	78	7.2	0.08
South Central	101	5.6	-2.40 -
Southeastern	490	7.7	1.80
Southwestern	218	7.2	0.21
Pennsylvania	1,025	7.1	-0.45
U.S. (1998)	28,371	7.2	

<u>White</u>	<u>No.</u>	<u>Rate</u>	<u>Black</u>	<u>No.</u>	<u>Rate</u>	<u>Hispanic</u>	<u>No.</u>	<u>Rate</u>
North Central	42	6.2	North Central	2	18.0	North Central	1	19.6
Northeastern	80	5.6	Northeastern	11	19.1	Northeastern	13	10.3
Northwestern	64	6.3	Northwestern	14	24.5	Northwestern	2	13.4
South Central	89	5.3	South Central	10	9.4	South Central	4	5.8
Southeastern	228	5.0	Southeastern	241	16.5	Southeastern	37	7.7
Southwestern	154	5.9	Southwestern	57	17.9	Southwestern	3	14.8
Pennsylvania	657	5.5	Pennsylvania	335	16.7	Pennsylvania	60	8.4
U.S. (1998)	18,561	6.0	U.S. (1998)	8,726	14.3	U.S. (1998)	4,371	6.0

Note: A + or - after the value of  $\mu$  denotes if the district rate was significantly higher than the state rate. No + or - after the  $\mu$  value denotes no significant difference. State data were compared to U.S. data. Two separate formulas computed the  $\mu$  values, depending on the number of events. The value of  $\mu$  was not calculated for rates/percents based on less than 10 events or for rates by race and Hispanic origin. See Technical Notes.

# Health Status Indicators by Department of Health District

## Selected Diseases Total Number and Rate, 1997-1999

<b>Syphilis</b>	<b>No.</b>	<b>Rate</b>	<b>Tuberculosis</b>	<b>No.</b>	<b>Rate</b>
North Central	0	-	North Central	32	1.6
Northeastern	5	0.12	Northeastern	129	3.0
Northwestern	2	0.07	Northwestern	69	2.4
South Central	3	0.07	South Central	120	2.6
Southeastern	288	2.06	Southeastern	860	6.1
Southwestern	7	0.08	Southwestern	220	2.6
Pennsylvania	305	0.85	Pennsylvania	1,430	4.0
U.S. (1998)	6,993	2.60	U.S. (1998)	18,361	6.8

<b>AIDS</b>	<b>No.</b>	<b>Rate</b>	<b>Measles</b>	<b>No.</b>	<b>Rate</b>
North Central	96	4.8	North Central	0	-
Northeastern	237	5.6	Northeastern	1	0.02
Northwestern	96	3.4	Northwestern	0	-
South Central	362	8.0	South Central	0	-
Southeastern	3,635	25.9	Southeastern	9	0.06
Southwestern	370	4.4	Southwestern	3	0.04
Pennsylvania	4,796	13.3	Pennsylvania	13	0.04
U.S. (1998)	46,521	17.2	U.S. (1998)	100	0.04

## Low Birth Weight, Number and Percent, By Race and Hispanic Origin, 1999

<b>All Births</b>	<b>No.</b>	<b>Rate</b>	<b><math>\mu</math> (95%)</b>
North Central	449	6.4	-4.66 -
Northeastern	1,232	8.1	0.91
Northwestern	804	7.4	-1.93
South Central	1,300	7.2	-3.49 -
Southeastern	5,304	8.4	4.67 +
Southwestern	2,378	7.9	0.00
Pennsylvania	11,467	7.9	4.31 +
U.S. (1999)	301,183	7.6	

<b>White</b>	<b>No.</b>	<b>Rate</b>	<b>Black</b>	<b>No.</b>	<b>Rate</b>	<b>Hispanic</b>	<b>No.</b>	<b>Rate</b>
North Central	426	6.3	North Central	14	12.6	North Central	5	9.8
Northeastern	1,107	7.8	Northeastern	74	12.8	Northeastern	136	10.8
Northwestern	709	6.9	Northwestern	89	15.6	Northwestern	16	10.7
South Central	1,126	6.8	South Central	131	12.3	South Central	53	7.7
Southeastern	2,936	6.5	Southeastern	2,119	14.6	Southeastern	433	9.0
Southwestern	1,866	7.1	Southwestern	456	14.3	Southwestern	10	4.9
Pennsylvania	8,170	6.8	Pennsylvania	2,883	14.4	Pennsylvania	653	9.2
U.S. (1999)	205,561	6.6	U.S. (1999)	79,322	13.1	U.S. (1999)	48,688	6.4

Note: A + or - after the value of  $\mu$  denotes if the district rate was significantly higher than the state rate. No + or - after the  $\mu$  value denotes no significant difference. State data were compared to U.S. data. Two separate formulas were computed the  $\mu$  values, depending on the number of events. The value of  $\mu$  was not calculated for rates/percents based on less than 10 events or for rates/percents by race and Hispanic origin. See Technical Notes.

# Health Status Indicators by Department of Health District

## No Prenatal Care in First Trimester, Number and Percent of Live Births, By Race and Hispanic Origin, 1999

All Births	No.	Rate	m (95%)
North Central	1,127	16.5	3.96 +
Northeastern	1,877	12.7	-7.20 -
Northwestern	1,689	15.8	2.91 +
South Central	2,289	12.9	-7.17 -
Southeastern	10,630	17.7	20.10 +
Southwestern	2,968	10.1	-22.74 -
Pennsylvania	20,580	14.8	-20.04 -
U.S. (1999)	646,377	16.8	

White	No.	Rate	Black	No.	Rate	Hispanic	No.	Rate
North Central	1,067	16.2	North Central	36	34.3	North Central	17	34.7
Northeastern	1,667	12.0	Northeastern	156	29.0	Northeastern	252	21.5
Northwestern	1,512	15.1	Northwestern	168	30.8	Northwestern	39	27.1
South Central	1,979	12.1	South Central	244	24.4	South Central	175	26.6
Southeastern	5,804	13.4	Southeastern	4,107	30.3	Southeastern	1,262	27.8
Southwestern	2,270	8.8	Southwestern	627	20.6	Southwestern	20	10.2
Pennsylvania	14,299	12.4	Pennsylvania	5,338	28.4	Pennsylvania	1,765	26.1
U.S. (1999)	456,073	14.9	U.S. (1999)	150,171	25.9	U.S. (1999)	188,323	25.6

## Live Births to Mothers Under Age 18, Number and Percent, By Race and Hispanic Origin, 1999

All Births	No.	Rate	m (95%)
North Central	231	3.3	-1.35
Northeastern	520	3.4	-1.33
Northwestern	389	3.6	0.00
South Central	632	3.5	-0.72
Southeastern	2,597	4.1	6.76 +
Southwestern	909	3.0	-5.59 -
Pennsylvania	5,278	3.6	-14.84 -
U.S. (1999)	172,642	4.4	

White	No.	Rate	Black	No.	Rate	Hispanic	No.	Rate
North Central	219	3.2	North Central	9	8.1	North Central	3	5.9
Northeastern	457	3.2	Northeastern	53	9.2	Northeastern	126	10.0
Northwestern	324	3.2	Northwestern	63	11.0	Northwestern	10	6.7
South Central	505	3.0	South Central	111	10.5	South Central	67	9.8
Southeastern	1,166	2.6	Southeastern	1,348	9.3	Southeastern	469	9.8
Southwestern	582	2.2	Southwestern	303	9.5	Southwestern	8	3.9
Pennsylvania	3,253	2.7	Pennsylvania	1,887	9.4	Pennsylvania	683	9.6
U.S. (1999)	116,363	3.7	U.S. (1999)	49,896	8.2	U.S. (1999)	50,954	6.7

Note: A + or - after the value of  $\mu$  denotes if the district rate was significantly higher than the state rate. No + or - after the  $\mu$  value denotes no significant difference. State data were compared to U.S. data. Two separate formulas were used to compute the  $\mu$  values, depending on the number of events. The value of  $\mu$  was not calculated for rates/percents based on less than 10 events or for rates by race and Hispanic Origin. See Technical Notes.

# Technical Notes

## Data Sources

The Pennsylvania Department of Health's vital statistics registration system was the source for the birth and death statistics that appear in this report except for work-related injury deaths which were from the Census of Fatal Occupational Injuries as conducted by the U.S. Department of Labor. The National Center for Health Statistics was the source for the U.S. birth and death statistics that appear in this report. The latest available U.S. birth statistics are final 1999 data. The latest available U.S. death statistics are 1998 final data.

The Department's Communicable Disease Surveillance, Sexually Transmitted Disease, and Tuberculosis Control Programs were the sources for the number of measles, syphilis, and tuberculosis cases reported. For the number of AIDS cases reported, data from the Department's AIDS Reporting System were used.

The U.S. Bureau of the Census 1997 income data were used for the estimated number and percentage of related children ages 5-17 and all children under age 18 living below the poverty level by county. Access their website at [www.census.gov](http://www.census.gov) to review complete data tables, including confidence intervals and data limitations.

Population estimates for the years 1997 through 1999 used to compute rates were produced jointly by the U.S. Bureau of the Census and the State Data Center of the Pennsylvania State University at Harrisburg under the Federal-State Cooperative Program for Local Population Estimates. The estimated county population figures used to compute the rates that appear in this report are available from the Bureau of Health Statistics upon request. The 2000 United States standard million population used in calculating age-adjusted death rates follows:

<u>Age</u>	<u>Population</u>
All Ages .....	1,000,000
Under 1 .....	13,818
1-4 .....	55,317
5-14 .....	145,565
15-24 .....	138,646
25-34 .....	135,573
35-44 .....	162,613
45-54 .....	134,834
55-64 .....	87,247
65-74 .....	66,037
75-84 .....	44,842
85+ .....	15,508

## DEFINITIONS of TERMS

**Death rates** by cause (and for all causes) are per 100,000 population (except the rate for breast cancer which is per 100,000 females) and are age-adjusted to the 2000 standard million U.S. population (see above) except the rate for work related injury which is a crude rate per 100,000 population. **Infant death rates** are per 1,000 live births for the specified years.

**Incidence rates** are per 100,000 population for the specified years.

The **International Classification of Diseases (ICD-9 for 1997 and 1998; ICD-10 for 1999) codes** for the selected causes of death shown in this report are as follows:

	<u>ICD-9</u>	<u>ICD-10</u>
Motor Vehicle Accidents	E810-E825	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Intentional Self-harm (Suicide)	E950-E959	X60-X84, Y87.0
Lung Cancer	162	C33-C34
Female Breast Cancer	174	C50 (sex = fem)
Cardiovascular Disease	390-448	I00-I78
Diseases of Heart	390-398, 402, 404-429	I00-I09, I11, I13, I20-I51
Stroke	430-438	I60-I69
Assault (Homicide)	E960-E978	X85-Y09, Y87.1

**Low Birth Weight** is less than 2,500 grams or 5 pounds and 9 ounces.

**Hispanics** can be of any race.

**All calculations** exclude any unknowns.

## Age-Adjusted Rates

There are many characteristics of a population that can render a crude rate of little use, especially when comparing different populations. (A crude rate is usually defined as: total number of events divided by total population at risk, then, multiplied by 1,000 or 100,000.) Any unique demographic factors such as those related to age, sex or race are used or compared. The median age of Pennsylvania's population has been for many years one of the highest among all the states. Therefore, age-adjusted rates offer a more refined measurement to compare experiences over geographic areas or periods of time. However, there are limitations to their use and one should be familiar with these types of rates when using them.

The age-adjusted death rates that appear in this report were calculated using the direct method and the 2000 United States standard million population distribution (shown in the column on the left). It is important to use the same standard population in the computation of each age-adjusted rate to allow comparability. **Please note that all previous reports for Health Status Indicators used the 1940 U.S. standard million population to calculate age-adjusted rates. Therefore, the age-adjusted rates that appear in this report should not**

**be compared to the age-adjusted rates that appeared in previous reports.** This change in the use of a standard population is in response to national/federal guidelines. Also, note that age-adjusted rates are artificial measurements and should never be compared with any other type of rate or be used to calculate the actual number of events.

To calculate an age-adjusted rate using the direct method, the age-specific rates must first be calculated for each of the age groups (as shown in the 2000 standard population distribution on the previous page) using the enumerated or estimated population figures for the time period and population under study. Each age-specific rate is then multiplied by the population figure of the corresponding age group in the standard population breakdown. The resultant figures are the number of deaths to be expected if the population under study had the same age distribution as the standard population. The total of these expected events is then divided by the total of the standard population (in the report 1,000,000). This dividend is then multiplied by 100,000 to yield the age-adjusted rate per 100,000 population.

## Reliability of Rates

All rates are subject to variation. This variation is directly related to the number of events used to calculate the rate. The smaller the number of events used in the calculation of a rate, the higher will be the variability of the rate. Rates (or percentages) based on unusually small numbers of events over a specified period of time or for a sparsely populated geographic area should be of particular concern and used cautiously. When few events or small populations are evident in calculating/studying rates, multiple-year summary rates usually referred to as average annual rates, will sometimes provide a much better perspective or measurement of an outcome. Expanding the period of time studied enlarges the absolute numbers and adds more credence to a statement regarding a rate. Another approach is to expand the geographical area of study, thereby, enlarging the number of events. Adjoining counties can be grouped into regions according to any demographic features they may share, i.e., rural counties with mostly white, older populations.

It is also common practice among data users familiar with health statistics to calculate what is called a standard error (SE) of a rate when comparing rates. This statistic defines a rate's variability and can be used to calculate a confidence interval (CI) to determine the range of possible values for the true rate. If a set standard, goal or target value is included in a rate's confidence interval, there is no significant difference between the two. However, there are various statistical formulas for comparing rates depending on the types of rates or populations being studied and the number of events involved. The following section discusses various statistical formulas that were used to compare the rates that appear in this report.

**NOTE:** Before we proceed with presenting formulas for comparing rates and ratios/percentages, the user should

understand that these statistical tools for analyzing/comparing rates are crude and rather conservative approaches, especially the formulas presented for comparing age-adjusted rates. A user may wish to utilize more precise and sophisticated calculations performed by computer software such as SPSS or SAS. Consultation with a statistician or other professional familiar with analyzing health statistics may also be a consideration before pursuing any further study.

## Comparison of Age-Adjusted Rates

As mentioned above, a first step in comparing rates is the computation of a standard error (SE), defining the rate's variability. The usual formula given for computing the standard error of an age-adjusted rate (Chiang, 1961) is very complex and not often understood or used by the average health data user. However, the average user can approximate the standard error of an age-adjusted rate with the following less complex formula (Keyfitz, 1966):

$$SE=R/\sqrt{N}$$

where:

R = (age-adjusted) rate

N = number of events (deaths)

This estimate assumes the rate to be a binomial proportion. As an example, let's use the state's average annual (1997-1999) age-adjusted death rate for suicide of 11.0 to calculate an estimated SE. The rate was based on 4,038 suicides. The square root of 4,038 is 63.55. By dividing the rate of 11.0 by 63.55, one obtains the estimated SE of 0.1731. The estimated SE can then be used to compute a 95% confidence interval (CI) for the rate. The standard formula for determining the 95% CI of a rate is:

$$R \pm (1.96 \times SE)$$

Following this formula, for the rate we are using, produces an equation of  $11.0 \pm (1.96 \times 0.1731)$  and the result is  $11.0 \pm 0.34$ . Then, by subtracting and adding 0.34 against the original rate of 11.0, a range can be calculated and considered the estimated 95% confidence interval for the state, i.e., 10.66 - 11.34. One could then state, with 95% certainty that the actual age-adjusted suicide rate for the state during 1997-1999 was between 10.66 and 11.34.

To compare a particular county's age-adjusted suicide rate for 1997-1999 with the state's corresponding rate, one must go through the same steps shown directly above to obtain the 95% CI for that county's rate. If the rate for the state is not included in the CI, then the county rate is considered to be significantly different, at the 95% confidence level. For example, at first glance, Blair County's age-adjusted suicide rate for 1997-1999 of 14.2 (based on 53 deaths) seems much higher than the corresponding state rate of 11.0. However, calculation of a 95% CI for Blair County's rate would produce a rather wide range of 10.38-18.02. Since this range for Blair

County also includes 11.0 or the state rate, we can say that the county rate is not significantly different than the state rate, at the 95% confidence level. If we were comparing two counties, any significant difference would be determined by whether their confidence intervals overlapped or not. However, please note that the formula for computation of the SE that we are using is not as precise as others and the application of a more precise methodology may produce somewhat different results. Another important result the user of this formula should note is that, the smaller the number of events, upon which the rate is based, the larger the SE and CI will be. This clearly demonstrates the wider variability (and less reliability) of rates based on smaller numbers. As a general rule, age-adjusted rates based on less than twenty events should be considered unstable and are not recommended for comparative use or in determining significance. For this reason, the CIs were not computed, compared and shown for any age-adjusted mortality rate in this report based on less than twenty events.

## Comparison of Crude Rates/Ratios

A crude rate is easily computed and usually based on the number of vital events and the total population for a specific area or group, i.e., number of births or deaths among a specific population per 1,000 (or 100,000) of that specific population. A ratio is simply a proportion or percentage, usually a rate per 100. Any of the indicators that are not presented in this report as age-adjusted rates can be considered crude rates or ratios. Before comparison of these figures can be done, they should first be identified as dependent or independent and then defined as being based on a small or large number of events.

### DEPENDENT vs. INDEPENDENT CRUDE RATES:

Two crude rates or ratios are considered dependent when the same events are included in their numerators. Examples of this include a state rate and a county or city rate or rates that share or overlap the same time periods, i.e., two multiple-year summary rates for the state – one for 1980-1985, the other for 1980-1989. Two rates are considered to be independent when they do not include any of the same data or events in their numerator, such as rates for two different counties.

**NUMBER of EVENTS:** When comparing two dependent or independent rates, determining whether a significant difference exists between the two rates or whether the difference is caused solely by chance requires a rather complex statistical computation. The number of events upon which the two observed rates are based is of primary importance. The statistical formula for determining significance is different for a rate based on a small number of events as compared to the formula for a rate based on a large number of events. Exactly what is considered a small number of events is arbitrary but, as a general rule, one can define “small number” as less than 100 events. Crude rates or ratios based on less than ten events should be considered unstable and are not recommended for comparative use or in determining significance. The formulas are also different depending

on whether the rates being compared are dependent or independent.

Four formulas for comparing crude rates and ratios are presented next: one recommended for use in comparing dependent rates based on a small number of events; another, for comparing dependent rates based on a large number of events; a third, for independent rates based on less than 100 events; and, a fourth, for comparing independent rates based on 100 or more events. A sample step-by-step calculation is shown for the first formula to demonstrate its use.

### COMPARISON of DEPENDENT CRUDE RATES

**BASED on SMALL NUMBER OF EVENTS:** When the (county or local) crude rate or ratio to be compared to a standard (state or national) rate or ratio is based on 10-99 events, actual and estimated numbers of events are used to determine statistical significance. The formula for this situation is shown below:

$$\mu = (o - e) / \sqrt{e}$$

where:

- o = the number of events for the county or local area to be compared
- e = the expected number of events for the county or local area (based on the state or national crude rate)

If  $\mu$  has a value greater than + 1.96, the county rate is considered to differ significantly at a 95% confidence level from the state rate to which it is being compared. The value for o is a readily available figure; however, e must be specially computed. To compute the expected number of events for the county based on a state or national crude rate, first change the state rate to a percentage or rate per person. For example, if the state rate was 14.5 per 1,000 population, simply divide 14.5 by 1,000; the result is .0145. (Note: If comparing percentages, divide by 100.) Then, multiply the value of the denominator in the county rate (the population used to compute the rate) by this figure to obtain the value for e or the expected number of events for the county.

As an example for computation of this formula, use a county infant death rate of 13.8 per 1,000 resident live births. This rate was based on 58 resident infant deaths occurring among 4,205 resident live births for the county. The comparable state rate that year was 9.5. Step-by-step computation would yield the following results:

$$o = 58$$

$$e = (9.5/1,000) \times 4,205 \text{ or } 39.9$$

1.  $\sqrt{e} = \sqrt{39.9} = 6.3$
2.  $(o - e) = 58 - 39.9 = 18.1$
3.  $(o - e) / \sqrt{e} = 18.1/6.3 = 2.9 \text{ or } \mu$

Since the value of  $\mu$  in the previous computation exceeds the value of 1.96, it can be stated that the difference

between the county's infant death rate and the state's rate that year was significant at the 95% confidence level. In other words, the user can be up to 95% confident that the county's true infant death rate that year was significantly higher than the infant death rate for the state. A negative value of more than -1.96 would mean a significantly lower rate.

**COMPARISON of DEPENDENT CRUDE RATES BASED on LARGE NUMBER OF EVENTS:** The following formula for determining the significance between two observed, dependent crude rates with 100 or more events in the numerator of the county or local rate is more complex than the previous formula for dependent rates.

$$\mu = (r - s) \sqrt{(n / (s - s^2))}$$

where:

- r = the county or local rate to be compared, expressed as a rate per person
- s = the state (or national, regional, etc.) rate expressed as a rate per person
- n = the population figure used for computing the county or local rate

To compute a rate per person, divide the rate by the population number used to express the rate. For example, the rate per person for a death rate of 23.5 per 100,000 would be calculated by dividing 23.5 by 100,000. The result is 0.000235.

Determining significance according to the  $\mu$  value follows the same rules as listed in the previous section for comparing dependent rates based on a small number of events.

**COMPARISON of INDEPENDENT CRUDE RATES BASED on SMALL NUMBER OF EVENTS:** The following formulas can be used to compute a 95% confidence interval to determine the statistical significance of the difference between two independent crude rates when both rates are based on 10-99 events. The first step is to calculate the difference (D) between the two rates with the following formula:

$$D = r_1 - r_2$$

where:

- $r_1$  = rate for County 1
- $r_2$  = rate for County 2

The 95% confidence interval (CI) is then computed using the following formula:

$$CI = D \pm \sqrt{(CL_1^2 + CL_2^2)}$$

where:

- $CL_1$  = confidence limit for County 1 rate
- $CL_2$  = confidence limit for County 2 rate

This computation becomes a three-step process due to the need to construct a confidence limit or CL (the numerical value that determines the range of the confidence interval) or

each rate before the above formula can be calculated for CI. The formula for 95% confidence is as follows:

$$CL = 1.96 \times (r / \sqrt{d})$$

where: d = number of events

At the end of this three-step process, if the confidence interval or the range of the numbers calculated for the difference between the two rates includes the value of 0, then it can be stated that the two rates are not significantly different, with 95% confidence. Of course, if the range of numbers does not contain 0, then the difference between the rates is considered significant, with 95% confidence. For example, a computed confidence interval (CI) of 4.38 for a rate difference (D) of 6.8 would result in a range of 2.42 to 11.18. Since that range does not include the value of 0, the difference between the two rates being compared can be considered significant, with 95% confidence.

**COMPARISON of INDEPENDENT CRUDE RATES BASED on LARGE NUMBER OF EVENTS:** If two independent crude rates or ratios are being compared and both or one of the figures is based on 100 or more events, a two-step calculation is performed to construct a 95% confidence interval for the ratio between the two rates. Please note, however, that whenever only one of the two rates is based on 100 or more events, then that rate must be used as  $r^2$  in the following formula.

The formula for calculating the ratio (R) between the two rates is:

$$R = r_1 / r_2$$

where:

- $r_1$  = rate for County 1
- $r_2$  = rate for County 2

The formula for the 95% confidence interval (CI) for the ratio between the two independent rates is:

$$CI = R \pm 1.96 (R) \sqrt{((1/d_1) + (1/d_2))}$$

where:

- $d_1$  = number of events for County 1
- $d_2$  = number of events for County 2

If the range of numbers derived from the confidence interval (CI) for the ratio contains the value of 1, then a significant difference does not exist, at 95% confidence. If the range of numbers does not contain the value of 1, then it can be stated that the ratio between the two county rates is significantly different, with 95% confidence.

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## **Appendix**

### **Additional Statistics Available**

The Bureau of Health Statistics has created special five-year summary tabulations of birth and death data at the minor civil division level (city, borough or township) that can be used to calculate the health status indicators relating to births and deaths as shown in this report. Five-year summary data have been produced because of the very small annual numbers of births and deaths in most of the minor civil divisions in the state. Tabulations of multiple-year populations (estimated and enumerated) for the state and counties used to calculate the indicators, as shown in this report, are also available upon request. However, for minor civil divisions, we can only provide 1990 enumerated population detail by age and 1990 census figures for poverty status, which are based on annual income earned during 1989.

Birth and infant death three-year summary data that can be used to compute indicators by race (white and black) are available for selected municipalities. These municipalities were selected according to the following criteria – a city or borough with 1990 enumerated population of 25,000 or more and having at least 100 resident live births to mothers of Hispanic origin are included in these tabulations.

All additional data available, except minor civil division population and poverty status figures, will be updated every year, i.e., when 2000 data are available, 1996-2000 summary data will be created. As updates are made, historical multiple-year data will continue to be available, allowing for computing and comparing of trend data. A complete list of the additional statistics available for use in computing and comparing indicators appears below. Copies of these tabulations can be obtained by contacting the Bureau in writing, by telephone (717-783-2548) or FAX(717-772-3258). However, some of these cross-tabulations are quite lengthy and there may be a charge involved for a large number of copies. More recent tabulations are also available in Portable Document Format (PDF) or Text (TXT) files.

#### **Births:**

Resident Live Births by Birth Weight for State, Counties and Minor Civil Divisions, Five-Year Summary and by Race (White and Black) and Hispanic Origin for Selected Municipalities, Three-Year Summary

Resident Live Births by Trimester of Mother's Entry in Prenatal Care for State, Counties and Minor Civil Divisions, Five-Year Summary and by Race (White and Black) and Hispanic Origin for Selected Municipalities, Three-Year Summary

Resident Live Births by Age Group of Mother for State, Counties and Minor Civil Divisions, Five-Year Summary and by Race (White and Black) and Hispanic Origin for Selected Municipalities, Three-Year Summary

#### **Deaths:**

Resident Deaths by Selected Causes by Age Group for State, Counties and Minor Civil Division, Five-Year Summary

Resident Infant Deaths for State, Counties and Minor Civil Divisions, Five-Year Summary and by Race (White and Black) and Hispanic Origin for Selected Municipalities, Three-Year Summary

#### **Population/Poverty:**

Population for State and Counties by Age Group, Three-Year Summary (Enumerated and Estimated)

Population for Minor Civil Division by Age Group, 1990 Enumerated Only

Related Children Under 18 Years of Age Living with Person/s with Income in 1997 Below Poverty Level for State and Counties – Minor Civil Divisions, Number and Percent, 1990 Enumerated Only

# Pennsylvania Health Districts and Counties

