

**Health Status Indicators  
for Pennsylvania Counties  
and Health Districts  
2005 Report**

Bureau of Health Statistics and Research  
Pennsylvania Department of Health  
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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 and Research of the Pennsylvania Department of Health. The indicators were developed by the Centers 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 and Research, Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretation or conclusions.

The Bureau of Health Statistics and Research 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 (except for the poverty indicators). 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 2003. Indicators updated with 2004 data will appear in the 2006 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 seven other counties – Allegheny, Bucks, Chester, Dauphin, Delaware, Erie, and Montgomery. A large majority of the state's black residents live in these eight 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 seven counties (Berks, Chester, Lancaster, Lehigh, Montgomery, Northampton, and Philadelphia) where a large segment of the Hispanic population in the state reside. Starting with the 2002 report, data for Asian/Pacific Islander are shown for birth and three-year infant death statistics. Data for Asians are shown for Pennsylvania and four counties: Allegheny, Delaware, Montgomery, and Philadelphia. The criteria for choosing which counties had racial or Hispanic data was a 2000 U.S. Census population of 15,000 or more blacks, Hispanics, or Asians as well as at least 200 births to black, Hispanic, or Asian/Pacific Islander mothers. Data on whites appear for the state and the twelve counties that also have black, Asian/Pacific Islander and/or Hispanic data shown in this

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report. Racial (except for Asian/Pacific Islander) and Hispanic data appear for all six Department of Health Districts.

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 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 2010 objective; some indicators are similar to but are not exactly the same measurement used in a 2010 objective; and, some indicators do not appear in any 2010 objective.

Through the release of this report, the Bureau of Health Statistics and Research 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 and Research. 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 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 data for selected cities and boroughs. The cities and boroughs with black or Hispanic data are those that had a 2000 U.S. Census population of 20,000 or more and had at least 100 Hispanic or black annual births among residents.

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

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

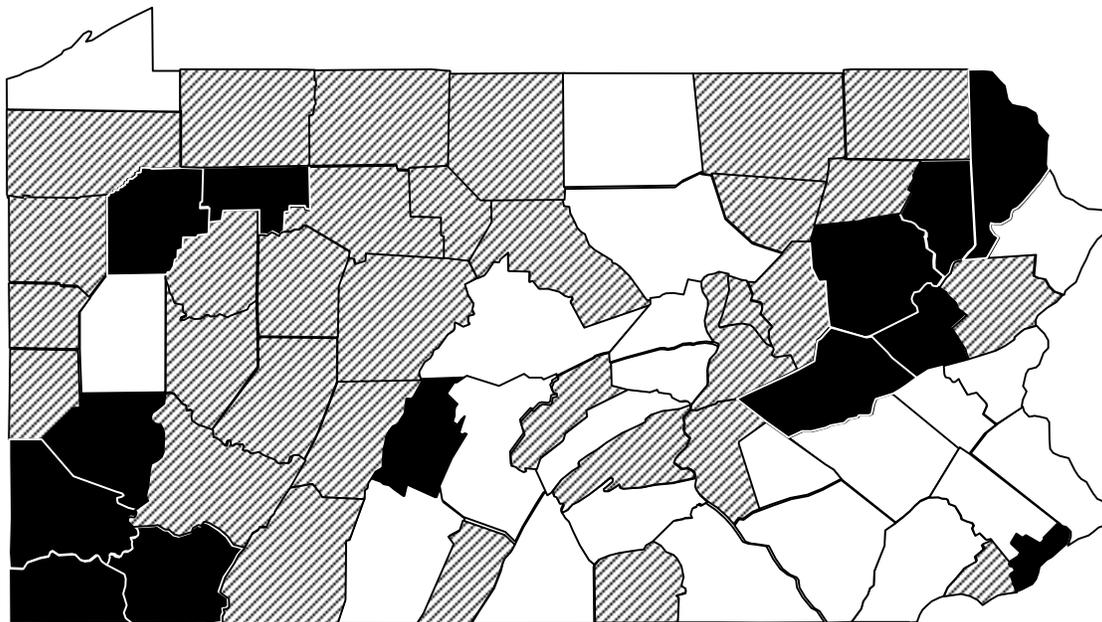
The latest multiple or single-year numbers and rates or ratios for health status indicators by county and by Pennsylvania Department of Health District are presented in summary data table format.

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 30-33) for a complete discussion of data sources, definitions of terms, age-adjusted rates, the reliability of rates, and the formulas used in the comparative analyses.

## Average Annual Age-Adjusted Death Rates for All Causes, 2001-2003

All Causes	No.	Rate	CI (95%)	All Causes	No.	Rate	CI (95%)
Adams	2,639	846.0	813.72-878.28	Lancaster	12,816	796.8	783.00-810.60 -
Allegheny	45,682	891.6	883.42-899.78 +	Lawrence	3,562	873.0	844.33-901.67
Armstrong	2,618	899.9	865.43-934.37	Lebanon	3,821	815.4	789.55-841.25 -
Beaver	6,461	888.5	866.83-910.17	Lehigh	9,441	803.6	787.39-819.81 -
Bedford	1,442	798.3	757.10-839.50 -	Luzerne	13,305	950.7	934.55-966.85 +
Berks	10,842	823.6	808.10-839.10 -	Lycoming	3,693	836.5	809.52-863.48 -
Blair	4,925	973.5	946.31-1,000.69 +	McKean	1,575	911.7	866.67-956.73
Bradford	1,976	870.9	832.50-909.30	Mercer	4,150	853.8	827.82-879.78
Bucks	15,023	841.0	827.55-854.45 -	Mifflin	1,559	863.7	820.83-906.57
Butler	5,287	842.4	819.69-865.11 -	Monroe	3,524	874.3	845.43-903.17
Cambria	5,752	873.1	850.54-895.66	Montgomery	21,004	779.7	769.16-790.24 -
Cameron	222	823.6	715.26-931.94	Montour	664	904.7	835.89-973.51
Carbon	2,261	943.9	904.99-982.81 +	Northampton	7,721	774.6	757.32-791.88 -
Centre	2,693	802.7	772.38-833.02 -	Northumberland	3,542	876.3	847.44-905.16
Chester	9,774	780.2	764.73-795.67 -	Perry	1,149	881.6	830.62-932.58
Clarion	1,306	891.6	843.24-939.96	Philadelphia	50,468	1,048.3	1,039.15-1,057.45 +
Clearfield	2,755	849.3	817.59-881.01	Pike	1,068	699.4	657.45-741.35 -
Clinton	1,228	881.9	832.57-931.23	Potter	650	918.0	847.43-988.57
Columbia	2,005	845.0	808.01-881.99	Schuylkill	6,259	956.3	932.61-979.99 +
Crawford	2,827	865.9	833.98-897.82	Snyder	962	786.1	736.42-835.78 -
Cumberland	6,056	798.9	778.78-819.02 -	Somerset	2,838	867.6	835.68-899.52
Dauphin	7,370	872.7	852.78-892.62	Sullivan	308	975.4	866.47-1,084.33
Delaware	17,078	864.4	851.44-877.36	Susquehanna	1,384	896.8	849.55-944.05
Elk	1,145	838.4	789.84-886.96	Tioga	1,213	772.3	728.84-815.76 -
Erie	8,034	843.6	825.15-862.05 -	Union	1,076	770.2	724.18-816.22 -
Fayette	5,483	915.8	891.56-940.04 +	Venango	1,972	925.3	884.46-966.14 +
Forest	227	1,059.5	921.67-1,197.33 +	Warren	1,476	892.8	847.25-938.35
Franklin	3,868	796.2	771.11-821.29 -	Washington	7,371	895.2	874.76-915.64 +
Fulton	392	819.7	738.55-900.85	Wayne	1,801	941.5	898.02-984.98 +
Greene	1,399	969.5	918.70-1,020.30 +	Westmoreland	13,252	870.2	855.38-885.02
Huntingdon	1,252	818.2	772.88-863.52 -	Wyoming	780	866.6	805.78-927.42
Indiana	2,710	858.1	825.79-890.41	York	9,857	792.4	776.76-808.04 -
Jefferson	1,678	891.0	848.37-933.63	Pennsylvania	387,934	872.0	869.26-874.74 +
Juniata	630	774.7	714.21-835.19 -	United States (2003)	2,443,930	831.2	830.16-832.24
Lackawanna	8,633	928.3	908.72-947.88 +				



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

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.

## Average Annual Age-Adjusted Death Rates for Selected Causes, 2001-2003

### Cardiovascular

Disease	No.	Rate	CI (95%)
Adams	1,143	362.2	341.20-383.20 +
Allegheny	17,856	335.9	330.97-340.83 +
Armstrong	1,040	348.0	326.85-369.15
Beaver	2,458	330.1	317.05-343.15
Bedford	590	320.7	294.82-346.58
Berks	4,183	311.6	302.16-321.04 -
Blair	2,051	394.2	377.14-411.26 +
Bradford	782	339.2	315.43-362.97
Bucks	5,220	298.4	290.30-306.50 -
Butler	2,075	321.8	307.95-335.65
Cambria	2,368	344.0	330.14-357.86 +
Cameron	102	368.1	296.66-439.54
Carbon	877	354.8	331.32-378.28 +
Centre	1,098	332.3	312.64-351.96
Chester	3,566	292.2	282.61-301.79 -
Clarion	549	366.4	335.75-397.05 +
Clearfield	1,176	353.4	333.20-373.60 +
Clinton	483	342.9	312.32-373.48
Columbia	895	368.1	343.98-392.22 +
Crawford	1,055	316.1	297.03-335.17
Cumberland	2,382	310.6	298.13-323.07 -
Dauphin	2,877	338.0	325.65-350.35
Delaware	6,615	325.9	318.05-333.75
Elk	444	317.0	287.51-346.49
Erie	3,034	312.6	301.48-323.72 -
Fayette	2,178	350.8	336.07-365.53 +
Forest	90	391.5	310.62-472.38
Franklin	1,415	286.5	271.57-301.43 -
Fulton	145	306.5	256.61-356.39
Greene	567	384.1	352.48-415.72 +
Huntingdon	476	310.0	282.15-337.85
Indiana	963	298.0	279.18-316.82 -
Jefferson	762	392.4	364.54-420.26 +
Juniata	280	338.4	298.76-378.04
Lackawanna	3,734	381.3	369.07-393.53 +
Lancaster	4,902	300.2	291.80-308.60 -
Lawrence	1,430	334.1	316.78-351.42
Lebanon	1,537	319.1	303.15-335.05
Lehigh	3,513	290.3	280.70-299.90 -
Luzerne	5,815	387.0	377.05-396.95 +
Lycoming	1,514	333.3	316.51-350.09
McKean	639	357.8	330.06-385.54 +
Mercer	1,578	313.1	297.65-328.55
Mifflin	651	348.9	322.10-375.70
Monroe	1,168	302.0	284.68-319.32 -
Montgomery	7,524	274.5	268.30-280.70 -
Montour	263	343.3	301.81-384.79
Northampton	2,961	290.5	280.04-300.96 -
Northumberland	1,465	351.5	333.50-369.50 +
Perry	422	326.1	294.99-357.21
Philadelphia	18,104	366.5	361.16-371.84 +
Pike	368	254.1	228.14-280.06 -
Potter	225	308.6	268.28-348.92
Schuylkill	2,740	398.3	383.39-413.21 +
Snyder	385	313.6	282.27-344.93
Somerset	1,174	347.6	327.72-367.48
Sullivan	114	346.2	282.65-409.75
Susquehanna	559	352.7	323.46-381.94
Tioga	483	297.0	270.51-323.49 -
Union	420	295.0	266.79-323.21 -
Venango	743	343.0	318.34-367.66
Warren	559	332.8	305.21-360.39
Washington	2,686	316.4	304.43-328.37
Wayne	720	367.3	340.47-394.13 +
Westmoreland	5,281	337.5	328.40-346.60 +
Wyoming	326	362.4	323.06-401.74
York	3,639	292.0	282.51-301.49 -
Pennsylvania	149,437	328.1	326.44-329.76 +
United States (2003)	901,753	305.8	305.17-306.43

Diseases of Heart	No.	Rate	CI (95%)
Adams	940	297.7	278.67-316.73 +
Allegheny	13,933	263.1	258.73-267.47 +
Armstrong	841	281.5	262.47-300.53 +
Beaver	1,973	266.1	254.36-277.84 +
Bedford	432	234.1	212.02-256.18
Berks	3,140	234.4	226.20-242.60 -
Blair	1,626	313.5	298.26-328.74 +
Bradford	630	273.4	252.05-294.75
Bucks	3,791	216.3	209.41-223.19 -
Butler	1,650	256.4	244.03-268.77
Cambria	1,857	271.5	259.15-283.85 +
Cameron	89	320.5	253.91-387.09
Carbon	683	277.0	256.23-297.77 +
Centre	848	256.0	238.77-273.23
Chester	2,737	224.0	215.61-232.39 -
Clarion	427	285.8	258.69-312.91 +
Clearfield	952	286.8	268.58-305.02 +
Clinton	371	262.2	235.52-288.88
Columbia	703	290.5	269.03-311.97 +
Crawford	788	237.1	220.55-253.65 -
Cumberland	1,807	235.8	224.93-246.67 -
Dauphin	2,241	263.3	252.40-274.20
Delaware	4,964	245.2	238.38-252.02 -
Elk	327	234.3	208.90-259.70
Erie	2,307	238.4	228.67-248.13 -
Fayette	1,706	275.8	262.71-288.89 +
Forest	69	300.1	229.29-370.91
Franklin	1,050	212.7	199.83-225.57 -
Fulton	108	228.3	185.24-271.36
Greene	447	303.0	274.91-331.09 +
Huntingdon	368	239.6	215.12-264.08
Indiana	758	235.3	218.55-252.05 -
Jefferson	597	309.5	284.67-334.33 +
Juniata	195	236.9	203.65-270.15
Lackawanna	3,052	313.1	301.99-324.21 +
Lancaster	3,663	224.8	217.52-232.08 -
Lawrence	1,147	269.8	254.19-285.41 +
Lebanon	1,198	249.5	235.37-263.63
Lehigh	2,741	226.8	218.31-235.29 -
Luzerne	4,620	308.0	299.12-316.88 +
Lycoming	1,143	252.2	237.58-266.82
McKean	442	250.2	226.87-273.53
Mercer	1,226	244.2	230.53-257.87
Mifflin	509	273.2	249.47-296.93
Monroe	939	241.9	226.43-257.37
Montgomery	5,415	197.9	192.63-203.17 -
Montour	204	268.0	231.22-304.78
Northampton	2,360	231.9	222.54-241.26 -
Northumberland	1,199	289.4	273.02-305.78 +
Perry	335	258.6	230.91-286.29
Philadelphia	13,968	283.3	278.60-288.00 +
Pike	280	194.2	171.45-216.95 -
Potter	176	241.9	206.16-277.64
Schuylkill	2,171	316.5	303.19-329.81 +
Snyder	310	252.0	223.95-280.05
Somerset	960	285.5	267.44-303.56 +
Sullivan	84	260.6	204.87-316.33
Susquehanna	439	277.2	251.27-303.13
Tioga	376	232.2	208.73-255.67
Union	322	226.8	202.03-251.57 -
Venango	593	273.8	251.76-295.84
Warren	440	262.5	237.97-287.03
Washington	2,045	241.8	231.32-252.28 -
Wayne	558	285.0	261.35-308.65 +
Westmoreland	4,157	266.5	258.40-274.60 +
Wyoming	249	276.3	241.98-310.62
York	2,828	226.6	218.25-234.95 -
Pennsylvania	115,504	254.1	252.63-255.57 +
United States (2003)	684,462	232.1	231.55-232.65

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.

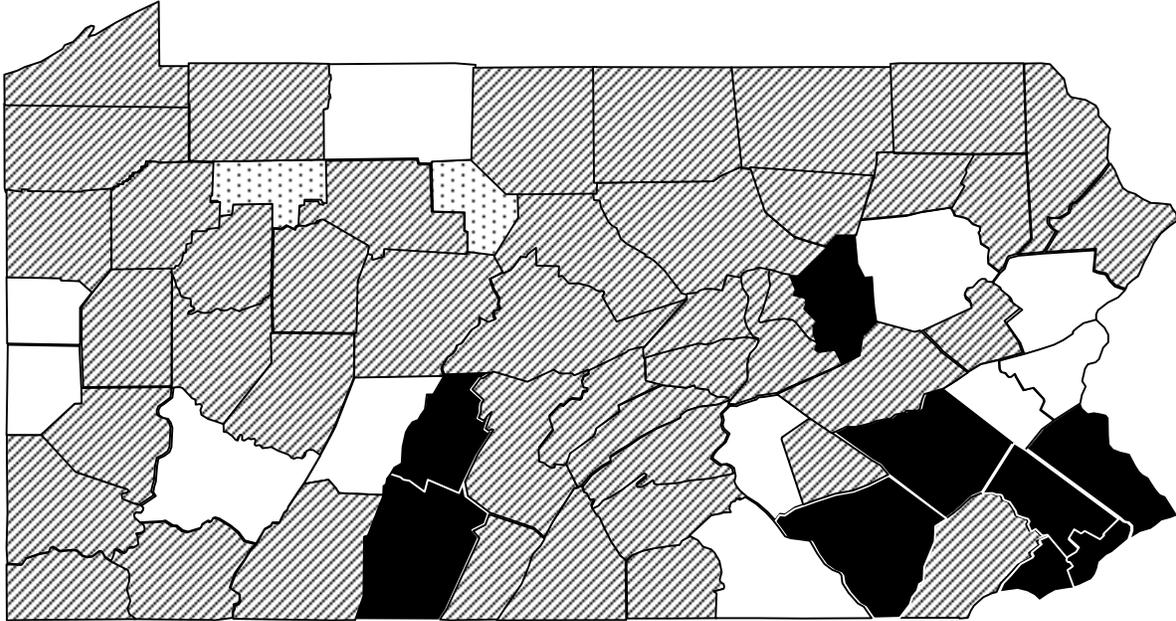


## Average Annual Age-Adjusted Death Rates for Selected Causes, 2001-2003

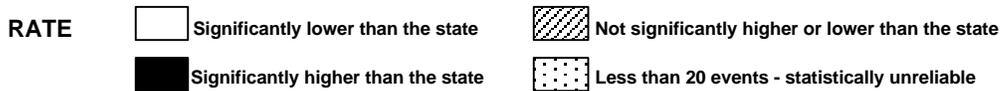
Stroke				Motor Vehicle Accidents			
	No.	Rate	CI (95%)		No.	Rate	CI (95%)
Adams	157	49.9	42.09-57.71	Adams	59	20.7	15.42-25.98 +
Allegheny	2,956	54.6	52.63-56.57	Allegheny	298	7.5	6.65-8.35 -
Armstrong	164	54.2	45.90-62.50	Armstrong	35	15.5	10.36-20.64
Beaver	339	44.6	39.85-49.35 -	Beaver	54	9.3	6.82-11.78 -
Bedford	133	73.3	60.84-85.76 +	Bedford	45	31.1	22.01-40.19 +
Berks	835	61.9	57.70-66.10 +	Berks	167	14.1	11.96-16.24
Blair	341	64.6	57.74-71.46 +	Blair	62	16.1	12.09-20.11
Bradford	112	48.6	39.60-57.60	Bradford	45	25.1	17.77-32.43 +
Bucks	1,094	63.4	59.64-67.16 +	Bucks	219	12.5	10.84-14.16
Butler	338	51.8	46.28-57.32	Butler	81	15.2	11.89-18.51
Cambria	320	45.3	40.34-50.26 -	Cambria	71	14.7	11.28-18.12
Cameron	9	34.0		Cameron	2	6.7	
Carbon	127	50.5	41.72-59.28	Carbon	40	23.1	15.94-30.26 +
Centre	178	54.6	46.58-62.62	Centre	52	12.8	9.32-16.28
Chester	616	50.9	46.88-54.92	Chester	129	9.8	8.11-11.49 -
Clarion	91	60.0	47.67-72.33	Clarion	25	19.4	11.80-27.00
Clearfield	168	49.8	42.27-57.33	Clearfield	58	22.5	16.71-28.29 +
Clinton	84	59.6	46.85-72.35	Clinton	25	21.2	12.89-29.51 +
Columbia	164	66.2	56.07-76.33 +	Columbia	37	18.9	12.81-24.99 +
Crawford	206	60.8	52.50-69.10	Crawford	59	21.5	16.01-26.99 +
Cumberland	441	57.4	52.04-62.76	Cumberland	75	11.0	8.51-13.49
Dauphin	408	47.8	43.16-52.44 -	Dauphin	99	13.2	10.60-15.80
Delaware	1,284	62.6	59.18-66.02 +	Delaware	132	7.6	6.30-8.90 -
Elk	90	63.2	50.14-76.26	Elk	22	22.8	13.27-32.33 +
Erie	536	54.8	50.16-59.44	Erie	126	14.3	11.80-16.80
Fayette	337	53.5	47.79-59.21	Fayette	72	16.7	12.84-20.56 +
Forest	13	55.6		Forest	5	38.0	
Franklin	265	53.7	47.23-60.17	Franklin	72	17.5	13.46-21.54 +
Fulton	23	49.6	29.33-69.87	Fulton	12	26.6	
Greene	89	60.0	47.53-72.47	Greene	36	29.1	19.59-38.61 +
Huntingdon	83	54.0	42.38-65.62	Huntingdon	28	19.7	12.40-27.00
Indiana	158	48.2	40.68-55.72	Indiana	63	21.7	16.34-27.06 +
Jefferson	97	49.2	39.41-58.99	Jefferson	30	21.9	14.06-29.74 +
Juniata	57	67.8	50.20-85.40	Juniata	14	21.9	
Lackawanna	512	51.3	46.86-55.74	Lackawanna	87	13.4	10.58-16.22
Lancaster	979	59.5	55.77-63.23 +	Lancaster	187	13.0	11.14-14.86
Lawrence	205	46.6	40.22-52.98 -	Lawrence	40	14.1	9.73-18.47
Lebanon	260	53.4	46.91-59.89	Lebanon	43	11.5	8.06-14.94
Lehigh	535	43.7	40.00-47.40 -	Lehigh	101	10.2	8.21-12.19 -
Luzerne	717	47.5	44.02-50.98 -	Luzerne	146	15.0	12.57-17.43
Lycoming	266	58.0	51.03-64.97	Lycoming	64	17.4	13.14-21.66 +
McKean	77	42.7	33.16-52.24 -	McKean	24	17.3	10.38-24.22
Mercer	257	50.3	44.15-56.45	Mercer	48	13.3	9.54-17.06
Mifflin	99	53.1	42.64-63.56	Mifflin	26	20.5	12.62-28.38 +
Monroe	171	44.8	38.09-51.51 -	Monroe	87	19.8	15.64-23.96 +
Montgomery	1,654	60.0	57.11-62.89 +	Montgomery	192	8.5	7.30-9.70 -
Montour	45	57.2	40.49-73.91	Montour	9	15.9	
Northampton	425	41.4	37.46-45.34 -	Northampton	73	8.5	6.55-10.45 -
Northumberland	211	49.2	42.56-55.84	Northumberland	43	14.6	10.24-18.96
Perry	66	51.3	38.92-63.68	Perry	39	29.6	20.31-38.89 +
Philadelphia	3,133	62.7	60.50-64.90 +	Philadelphia	409	9.0	8.13-9.87 -
Pike	68	46.3	35.30-57.30	Pike	25	17.1	10.40-23.80
Potter	32	44.0	28.75-59.25	Potter	5	9.1	
Schuylkill	413	59.2	53.49-64.91	Schuylkill	91	20.7	16.45-24.95 +
Snyder	53	43.6	31.86-55.34	Snyder	22	19.4	11.29-27.51
Somerset	165	47.9	40.59-55.21	Somerset	47	19.9	14.21-25.59 +
Sullivan	22	63.4	36.91-89.89	Sullivan	7	41.6	
Susquehanna	94	59.1	47.15-71.05	Susquehanna	32	26.6	17.38-35.82 +
Tioga	90	54.6	43.32-65.88	Tioga	21	15.8	9.04-22.56
Union	65	45.4	34.36-56.44	Union	25	18.3	11.13-25.47
Venango	108	49.9	40.49-59.31	Venango	39	22.2	15.23-29.17 +
Warren	89	52.5	41.59-63.41	Warren	29	23.1	14.69-31.51 +
Washington	474	55.0	50.05-59.95	Washington	72	11.2	8.61-13.79
Wayne	130	66.2	54.82-77.58	Wayne	40	27.1	18.70-35.50 +
Westmoreland	792	50.0	46.52-53.48 -	Westmoreland	151	13.9	11.68-16.12
Wyoming	60	67.0	50.05-83.95	Wyoming	22	26.2	15.25-37.15 +
York	627	50.6	46.64-54.56 -	York	179	15.8	13.49-18.11 +
Pennsylvania	25,207	54.9	54.22-55.58 +	Pennsylvania	4,774	12.6	12.24-12.96 -
United States (2003)	157,803	53.6	53.34-53.86	United States (2003)	44,059	15.0	14.86-15.14

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, 2001-2003**



**Average Annual Age-Adjusted Death Rates - Motor Vehicle Accidents  
Pennsylvania Residents, 2001-2003**



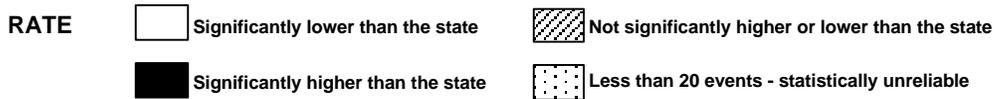
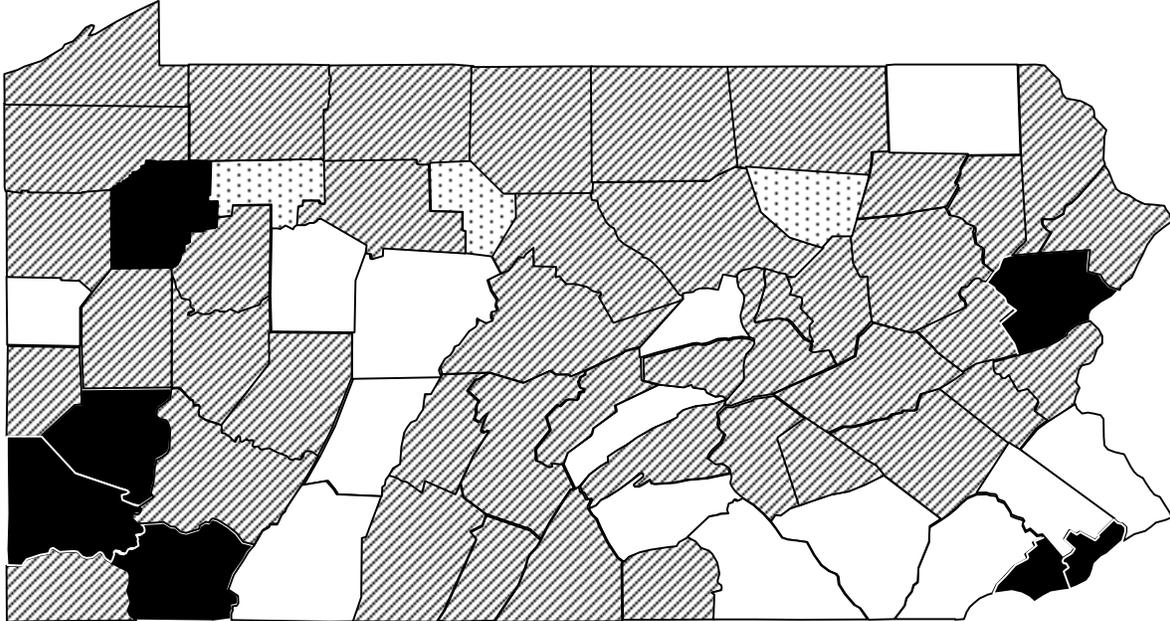
Note: Significance was determined by calculating and comparing county confidence intervals to the state rate. The calculations were not performed for counties that had less than 20 events. Rates for counties with less than 20 events are considered unreliable. See Technical Notes.

## Average Annual Age-Adjusted Death Rates for Selected Causes, 2001-2003

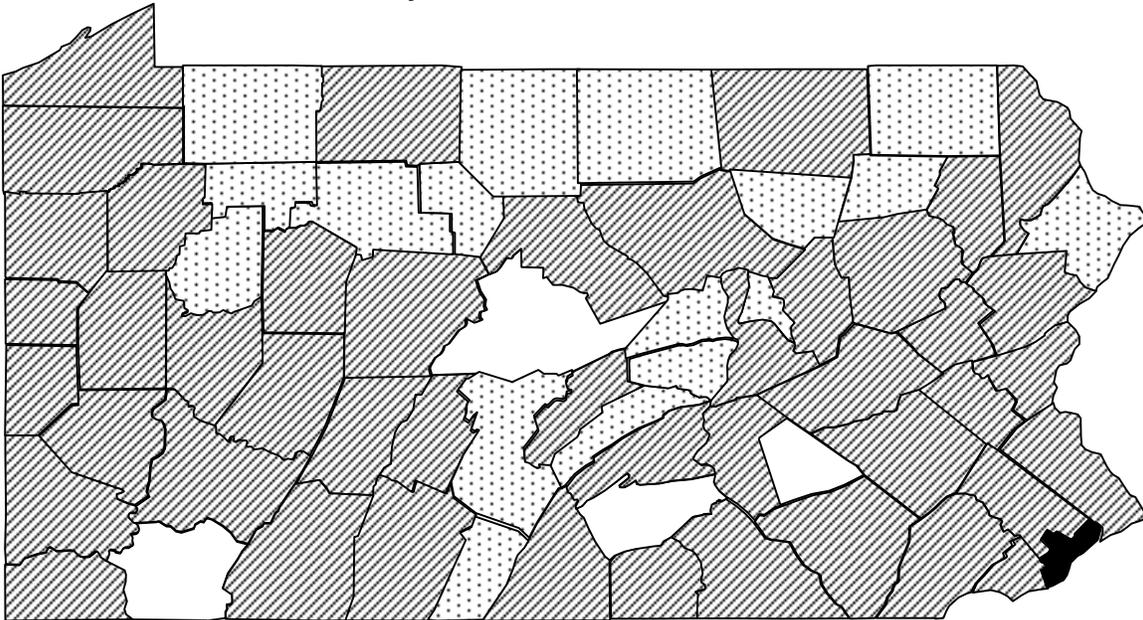
Lung Cancer				Female Breast Cancer			
No.	Rate	CI (95%)		No.	Rate	CI (95%)	
Adams	178	56.9	48.54-65.26	Adams	42	23.2	16.18-30.22
Allegheny	3,003	59.6	57.47-61.73 +	Allegheny	822	28.7	26.74-30.66
Armstrong	135	46.6	38.74-54.46	Armstrong	50	33.0	23.85-42.15
Beaver	435	58.7	53.18-64.22	Beaver	106	27.1	21.94-32.26
Bedford	98	50.7	40.66-60.74	Bedford	24	23.5	14.10-32.90
Berks	686	52.4	48.48-56.32	Berks	197	27.3	23.49-31.11
Blair	290	57.4	50.79-64.01	Blair	72	25.1	19.30-30.90
Bradford	116	49.9	40.82-58.98	Bradford	34	26.8	17.79-35.81
Bucks	933	49.2	46.04-52.36 -	Bucks	324	30.1	26.82-33.38
Butler	309	51.7	45.94-57.46	Butler	102	28.8	23.21-34.39
Cambria	307	47.3	42.01-52.59 -	Cambria	88	24.6	19.46-29.74
Cameron	12	45.0		Cameron	5	30.8	
Carbon	121	49.8	40.93-58.67	Carbon	41	31.0	21.51-40.49
Centre	168	48.7	41.34-56.06	Centre	32	17.3	11.31-23.29 -
Chester	635	48.1	44.36-51.84 -	Chester	190	25.3	21.70-28.90
Clarion	72	48.7	37.45-59.95	Clarion	17	22.6	
Clearfield	138	42.1	35.08-49.12 -	Clearfield	41	21.7	15.06-28.34
Clinton	78	55.5	43.18-67.82	Clinton	30	38.8	24.92-52.68
Columbia	111	46.5	37.85-55.15	Columbia	35	24.6	16.45-32.75
Crawford	176	54.2	46.19-62.21	Crawford	43	23.2	16.27-30.13
Cumberland	350	45.7	40.91-50.49 -	Cumberland	92	21.0	16.71-25.29 -
Dauphin	437	51.1	46.31-55.89	Dauphin	142	28.9	24.15-33.65
Delaware	1,128	58.3	54.90-61.70 +	Delaware	298	27.2	24.11-30.29
Elk	72	53.3	40.99-65.61	Elk	19	24.7	
Erie	539	57.8	52.92-62.68	Erie	163	30.4	25.73-35.07
Fayette	379	63.3	56.93-69.67 +	Fayette	69	21.1	16.12-26.08 -
Forest	13	53.3		Forest	4	37.2	
Franklin	249	50.2	43.96-56.44	Franklin	73	27.2	20.96-33.44
Fulton	22	42.1	24.51-59.69	Fulton	7	24.7	
Greene	84	58.8	46.23-71.37	Greene	24	29.4	17.64-41.16
Huntingdon	77	48.3	37.51-59.09	Huntingdon	15	16.3	
Indiana	147	47.7	39.99-55.41	Indiana	46	26.9	19.13-34.67
Jefferson	68	36.9	28.13-45.67 -	Jefferson	23	21.8	12.89-30.71
Juniata	26	30.7	18.90-42.50 -	Juniata	12	23.1	
Lackawanna	440	49.8	45.15-54.45	Lackawanna	144	26.4	22.09-30.71
Lancaster	780	49.1	45.65-52.55 -	Lancaster	240	27.1	23.67-30.53
Lawrence	190	47.2	40.49-53.91 -	Lawrence	59	28.3	21.08-35.52
Lebanon	241	52.5	45.87-59.13	Lebanon	51	20.2	14.66-25.74 -
Lehigh	577	50.3	46.20-54.40	Lehigh	163	25.9	21.92-29.88
Luzerne	698	52.0	48.14-55.86	Luzerne	223	29.5	25.63-33.37
Lycoming	216	49.2	42.64-55.76	Lycoming	62	25.7	19.30-32.10
McKean	93	54.7	43.58-65.82	McKean	24	28.1	16.86-39.34
Mercer	255	54.0	47.37-60.63	Mercer	61	22.6	16.93-28.27
Mifflin	93	50.2	40.00-60.40	Mifflin	31	28.8	18.66-38.94
Monroe	278	63.4	55.95-70.85 +	Monroe	78	32.9	25.60-40.20
Montgomery	1,287	47.9	45.28-50.52 -	Montgomery	413	27.3	24.67-29.93
Montour	33	46.3	30.50-62.10	Montour	12	26.4	
Northampton	518	52.7	48.16-57.24	Northampton	133	24.2	20.09-28.31
Northumberland	191	47.9	41.11-54.69	Northumberland	66	28.8	21.85-35.75
Perry	59	43.2	32.18-54.22	Perry	22	29.0	16.88-41.12
Philadelphia	3,182	68.0	65.64-70.36 +	Philadelphia	952	34.6	32.40-36.80 +
Pike	84	47.1	37.03-57.17	Pike	18	20.4	
Potter	45	66.6	47.14-86.06	Potter	19	50.1	
Schuylkill	364	57.6	51.68-63.52	Schuylkill	85	23.3	18.35-28.25
Snyder	55	43.5	32.00-55.00	Snyder	15	22.3	
Somerset	135	41.3	34.33-48.27 -	Somerset	48	25.9	18.57-33.23
Sullivan	12	37.6		Sullivan	2	10.1	
Susquehanna	62	39.5	29.67-49.33 -	Susquehanna	15	18.0	
Tioga	68	43.7	33.31-54.09	Tioga	19	23.3	
Union	45	33.6	23.78-43.42 -	Union	18	26.4	
Venango	150	67.3	56.53-78.07 +	Venango	27	23.8	14.82-32.78
Warren	98	57.1	45.79-68.41	Warren	18	19.6	
Washington	501	61.1	55.75-66.45 +	Washington	119	25.5	20.92-30.08
Wayne	99	49.2	39.51-58.89	Wayne	29	26.0	16.54-35.46
Westmoreland	810	52.5	48.88-56.12	Westmoreland	228	26.8	23.32-30.28
Wyoming	42	45.0	31.39-58.61	Wyoming	14	26.0	
York	613	47.9	44.11-51.69 -	York	172	24.5	20.84-28.16
Pennsylvania	23,906	54.0	53.32-54.68	Pennsylvania	6,862	27.6	26.95-28.25 +
United States (2003)	157,521	53.9	53.63-54.17	United States (2002)	41,514	25.6	25.35-25.85

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, 2001-2003



## Average Annual Age-Adjusted Death Rates - Female Breast Cancer Pennsylvania Residents, 2001-2003



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.

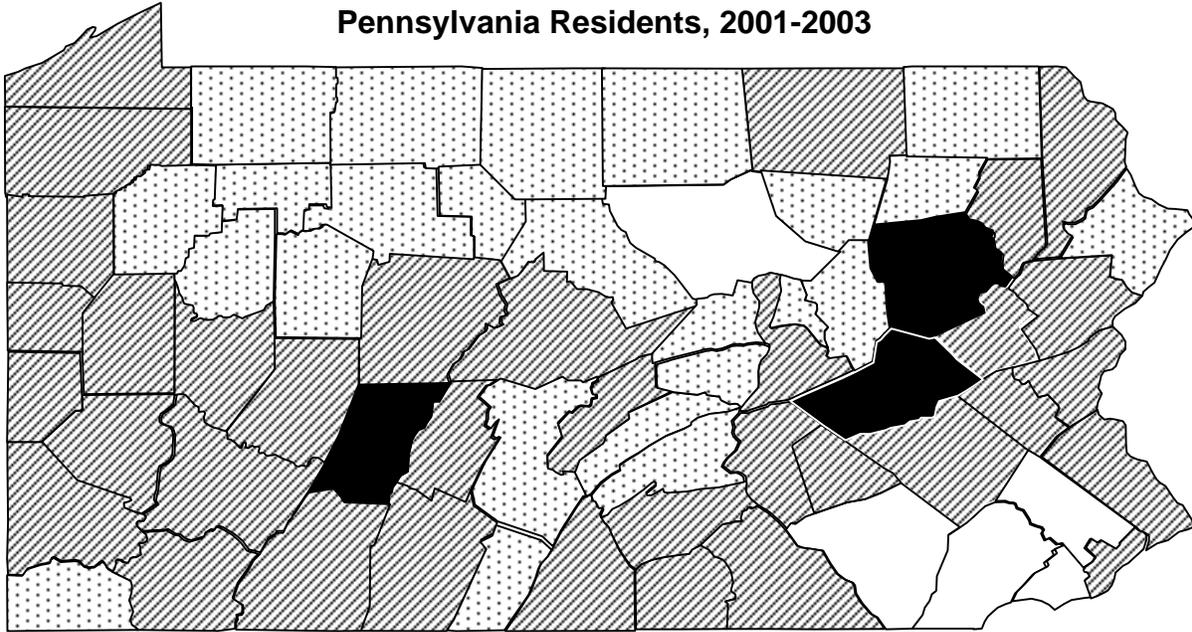
## Average Annual Age-Adjusted Death Rates for Selected Causes, 2001-2003

### Intentional Self-harm

<b>(Suicide)</b>	<b>No.</b>	<b>Rate</b>	<b>CI (95%)</b>	<b>Assault (Homicide)</b>	<b>No.</b>	<b>Rate</b>	<b>CI (95%)</b>
Adams	28	9.8	6.17-13.43	Adams	4	1.5	
Allegheny	419	10.7	9.68-11.72	Allegheny	277	7.7	6.79-8.61 +
Armstrong	21	9.5	5.44-13.56	Armstrong	9	4.4	
Beaver	64	11.5	8.68-14.32	Beaver	14	3.0	
Bedford	23	16.0	9.46-22.54	Bedford	4	2.7	
Berks	128	10.8	8.93-12.67	Berks	72	6.4	4.92-7.88
Blair	40	9.8	6.76-12.84	Blair	11	2.7	
Bradford	22	11.1	6.46-15.74	Bradford	5	2.8	
Bucks	192	10.4	8.93-11.87	Bucks	29	1.5	0.95-2.05 -
Butler	58	10.9	8.09-13.71	Butler	1	0.2	
Cambria	70	14.9	11.41-18.39 +	Cambria	14	3.5	
Cameron	2	9.3		Cameron	0	-	
Carbon	26	14.0	8.62-19.38	Carbon	4	1.9	
Centre	38	9.7	6.62-12.78	Centre	10	2.9	
Chester	109	7.9	6.42-9.38 -	Chester	16	1.3	
Clarion	17	14.0		Clarion	1	1.1	
Clearfield	39	14.6	10.02-19.18	Clearfield	1	0.4	
Clinton	10	8.3		Clinton	4	2.4	
Columbia	19	9.1		Columbia	1	0.4	
Crawford	23	8.2	4.85-11.55	Crawford	8	2.7	
Cumberland	59	8.7	6.48-10.92	Cumberland	8	1.3	
Dauphin	68	8.8	6.71-10.89	Dauphin	40	5.7	3.93-7.47
Delaware	147	8.8	7.38-10.22 -	Delaware	87	5.4	4.27-6.53
Elk	10	9.7		Elk	0	-	
Erie	78	9.4	7.31-11.49	Erie	17	2.0	
Fayette	57	12.9	9.55-16.25	Fayette	19	4.6	
Forest	5	39.7		Forest	0	-	
Franklin	40	10.0	6.90-13.10	Franklin	1	0.3	
Fulton	6	15.3		Fulton	1	2.5	
Greene	16	12.6		Greene	3	2.2	
Huntingdon	19	13.0		Huntingdon	3	2.3	
Indiana	26	9.8	6.03-13.57	Indiana	2	0.8	
Jefferson	19	13.4		Jefferson	2	1.6	
Juniata	6	8.6		Juniata	3	4.8	
Lackawanna	71	11.3	8.67-13.93	Lackawanna	11	1.9	
Lancaster	110	7.7	6.26-9.14 -	Lancaster	30	2.2	1.41-2.99 -
Lawrence	31	10.5	6.80-14.20	Lawrence	4	1.6	
Lebanon	38	10.3	7.03-13.57	Lebanon	5	1.4	
Lehigh	101	10.5	8.45-12.55	Lehigh	32	3.5	2.29-4.71 -
Luzerne	132	14.1	11.69-16.51 +	Luzerne	35	4.0	2.67-5.33 -
Lycoming	25	6.8	4.13-9.47 -	Lycoming	9	2.6	
McKean	17	12.7		McKean	3	2.5	
Mercer	31	8.2	5.31-11.09	Mercer	9	2.8	
Mifflin	22	14.9	8.67-21.13	Mifflin	2	1.6	
Monroe	50	11.1	8.02-14.18	Monroe	19	4.0	
Montgomery	199	8.5	7.32-9.68 -	Montgomery	57	2.6	1.93-3.27 -
Montour	6	10.0		Montour	0	-	
Northampton	88	10.4	8.23-12.57	Northampton	23	2.9	1.71-4.09 -
Northumberland	25	8.8	5.35-12.25	Northumberland	3	1.2	
Perry	17	12.2		Perry	3	2.4	
Philadelphia	459	10.4	9.45-11.35	Philadelphia	941	20.5	19.19-21.81 +
Pike	19	13.3		Pike	4	2.9	
Potter	8	14.8		Potter	0	-	
Schuylkill	74	16.2	12.51-19.89 +	Schuylkill	11	2.7	
Snyder	7	6.0		Snyder	0	-	
Somerset	29	10.1	6.42-13.78	Somerset	9	3.9	
Sullivan	4	20.3		Sullivan	0	-	
Susquehanna	18	13.5		Susquehanna	2	1.7	
Tioga	16	13.5		Tioga	0	-	
Union	18	13.6		Union	1	0.8	
Venango	16	9.2		Venango	4	2.8	
Warren	14	10.5		Warren	3	2.7	
Washington	72	10.9	8.38-13.42	Washington	12	2.0	
Wayne	21	13.7	7.84-19.56	Wayne	4	2.5	
Westmoreland	136	11.4	9.48-13.32	Westmoreland	26	2.6	1.60-3.60 -
Wyoming	14	15.9		Wyoming	4	4.9	
York	130	10.9	9.03-12.77	York	29	2.6	1.65-3.55 -
Pennsylvania	3,922	10.4	10.07-10.73	Pennsylvania	1,966	5.5	5.26-5.74 -
United States (2003)	30,642	10.5	10.38-10.62	United States (2003)	17,096	5.8	5.71-5.89

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.

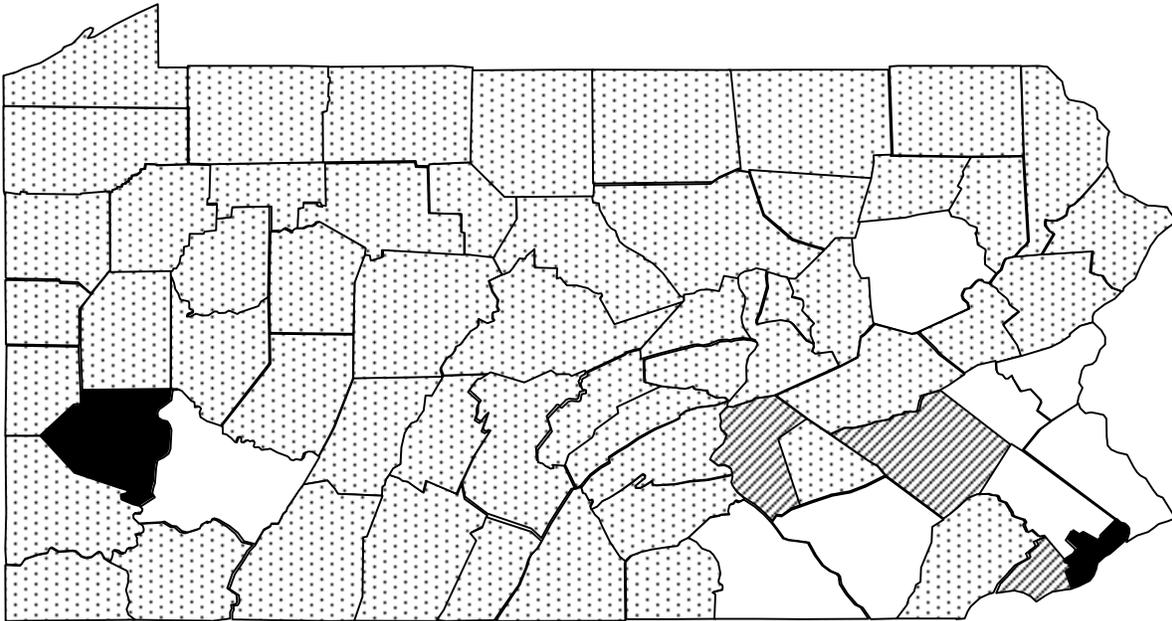
**Average Annual Age-Adjusted Death Rates  
Intentional Self-harm (Suicide)  
Pennsylvania Residents, 2001-2003**



**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, 2001-2003**



**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

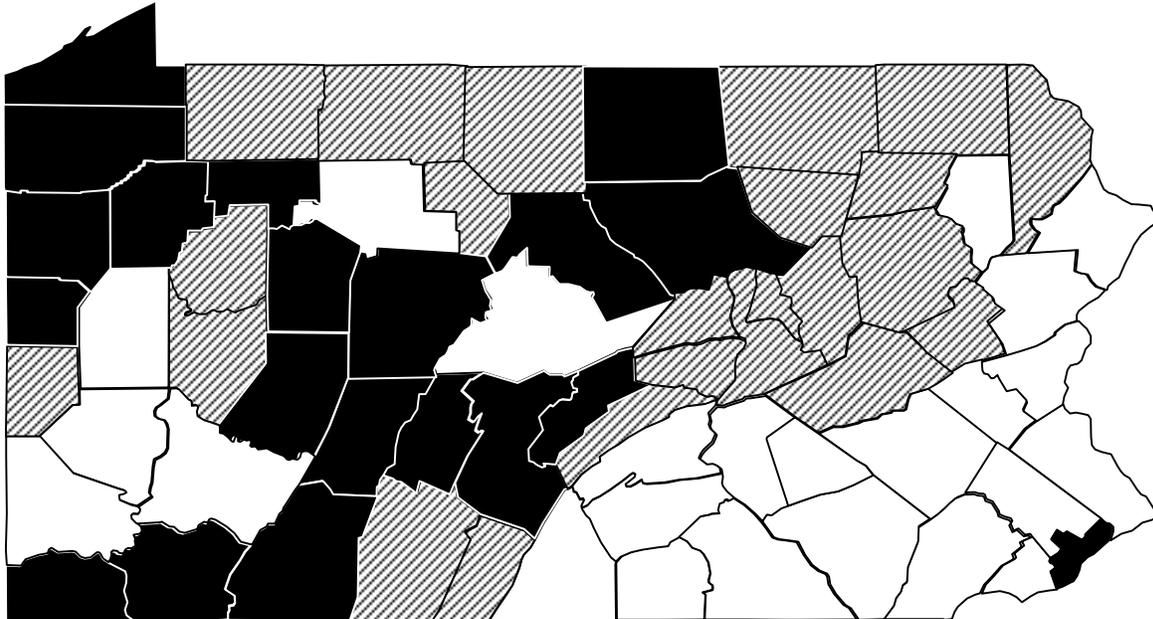
Note: Significance was determined by calculating and comparing county confidence intervals to the state rate. The calculations were not performed for counties that had less than 20 events. Rates for counties with less than 20 events are considered unreliable. See Technical Notes.

## Percent of Children by Age Below Poverty Level, 2002

Related Children				All Children <18			
<u>Ages 5-17 Below Poverty</u>	<u>No.</u>	<u>Pct.</u>	<u>m (95%)</u>	<u>Below Poverty</u>	<u>No.</u>	<u>Pct.</u>	<u>m (95%)</u>
Adams	1,323	8.0	-5.49 -	Adams	1,865	8.4	-7.10 -
Allegheny	24,217	12.1	-2.79 -	Allegheny	37,284	13.8	-0.88
Armstrong	1,609	13.8	0.96	Armstrong	2,325	15.2	1.26
Beaver	3,449	11.8	-1.52	Beaver	5,225	13.5	-0.84
Bedford	1,243	15.0	1.78	Bedford	1,729	15.5	1.35
Berks	7,764	11.5	-3.00 -	Berks	11,801	13.0	-2.56 -
Blair	3,283	16.2	4.31 +	Blair	4,757	17.4	4.78 +
Bradford	1,543	13.8	0.94	Bradford	2,263	15.2	1.25
Bucks	5,419	4.9	-23.37 -	Bucks	8,236	5.6	-27.42 -
Butler	2,246	7.2	-8.80 -	Butler	3,716	8.8	-9.09 -
Cambria	3,251	14.6	2.39 +	Cambria	4,887	16.3	3.39 +
Cameron	141	14.0	0.34	Cameron	191	15.2	0.36
Carbon	1,128	12.0	-0.69	Carbon	1,618	13.1	-0.85
Centre	1,604	9.2	-4.23 -	Centre	2,319	9.8	-5.50 -
Chester	4,391	5.3	-19.20 -	Chester	6,628	5.9	-23.11 -
Clarion	870	13.8	0.71	Clarion	1,249	15.1	0.85
Clearfield	2,123	15.9	3.19 +	Clearfield	3,062	17.6	4.04 +
Clinton	960	17.1	2.87 +	Clinton	1,332	17.4	2.53 +
Columbia	1,118	11.9	-0.78	Columbia	1,644	13.4	-0.57
Crawford	2,796	18.2	5.95 +	Crawford	3,952	19.0	6.14 +
Cumberland	1,931	5.6	-11.89 -	Cumberland	2,901	6.4	-13.77 -
Dauphin	4,760	10.8	-3.74 -	Dauphin	7,376	12.3	-3.54 -
Delaware	9,479	9.6	-8.95 -	Delaware	14,226	10.7	-10.24 -
Elk	519	8.9	-2.65 -	Elk	766	9.9	-3.07 -
Erie	8,016	16.4	7.08 +	Erie	11,668	17.6	7.89 +
Fayette	5,271	22.3	12.99 +	Fayette	7,462	23.7	14.65 +
Forest	143	21.5	2.00 +	Forest	188	18.3	1.17
Franklin	2,321	10.5	-3.04 -	Franklin	3,322	10.9	-4.61 -
Fulton	322	12.8	0.00	Fulton	429	12.8	-0.59
Greene	1,179	18.7	4.17 +	Greene	1,650	19.8	4.51 +
Huntingdon	1,069	15.5	1.99 +	Huntingdon	1,481	15.7	1.41
Indiana	2,307	17.8	5.06 +	Indiana	3,252	18.8	5.37 +
Jefferson	1,255	16.6	2.94 +	Jefferson	1,752	17.3	2.83 +
Juniata	459	11.4	-0.79	Juniata	608	11.1	-1.83
Lackawanna	3,711	11.3	-2.42 -	Lackawanna	5,834	13.2	-1.43
Lancaster	9,283	10.2	-6.98 -	Lancaster	13,721	11.0	-9.02 -
Lawrence	2,444	15.8	3.32 +	Lawrence	3,527	17.1	3.79 +
Lebanon	2,226	10.9	-2.42 -	Lebanon	3,204	11.6	-3.39 -
Lehigh	6,387	11.6	-2.50 -	Lehigh	9,557	12.9	-2.55 -
Luzerne	5,928	12.5	-0.58	Luzerne	9,109	14.5	1.07
Lycoming	2,801	14.5	2.10 +	Lycoming	4,002	15.4	1.92
McKean	1,132	15.3	1.91	McKean	1,614	16.2	1.87
Mercer	3,340	17.1	5.35 +	Mercer	4,765	18.1	5.66 +
Mifflin	1,439	17.8	4.00 +	Mifflin	1,971	18.1	3.64 +
Monroe	2,956	10.0	-4.28 -	Monroe	3,830	10.1	-6.46 -
Montgomery	6,700	5.0	-25.40 -	Montgomery	10,148	5.6	-30.43 -
Montour	327	10.7	-1.03	Montour	455	10.9	-1.70
Northampton	3,544	7.7	-9.73 -	Northampton	5,411	8.8	-10.97 -
Northumberland	1,984	14.0	1.27	Northumberland	2,716	14.2	0.24
Perry	778	9.9	-2.29 -	Perry	1,096	10.4	-3.15 -
Philadelphia	73,967	27.7	68.49 +	Philadelphia	106,332	28.8	76.54 +
Pike	922	9.2	-3.21 -	Pike	1,236	9.9	-3.90 -
Potter	537	16.1	1.70	Potter	720	16.2	1.25
Schuylkill	2,577	11.7	-1.45	Schuylkill	3,775	12.9	-1.60
Snyder	793	12.2	-0.43	Snyder	1,045	12.0	-1.59
Somerset	2,021	16.2	3.38 +	Somerset	2,814	17.1	3.38 +
Sullivan	146	16.3	0.93	Sullivan	191	14.9	0.27
Susquehanna	1,113	14.9	1.61	Susquehanna	1,529	15.6	1.35
Tioga	1,105	16.4	2.63 +	Tioga	1,492	16.6	2.10 +
Union	675	11.4	-0.96	Union	924	11.7	-1.74
Venango	1,592	16.7	3.39 +	Venango	2,255	17.9	3.73 +
Warren	1,023	14.1	0.99	Warren	1,422	14.8	0.67
Washington	3,511	10.7	-3.38 -	Washington	5,241	12.1	-3.37 -
Wayne	1,177	14.2	1.13	Wayne	1,618	15.0	0.88
Westmoreland	6,086	10.4	-5.16 -	Westmoreland	9,258	12.1	-4.47 -
Wyoming	576	11.8	-0.62	Wyoming	807	12.5	-1.03
York	5,983	8.7	-9.56 -	York	8,684	9.4	-11.90 -
Pennsylvania	268,293	12.8	-29.46 -	Pennsylvania	393,466	14.0	-35.36 -
United States (2002)	8,004,514	15.3		United States (2002)	12,132,645	16.7	

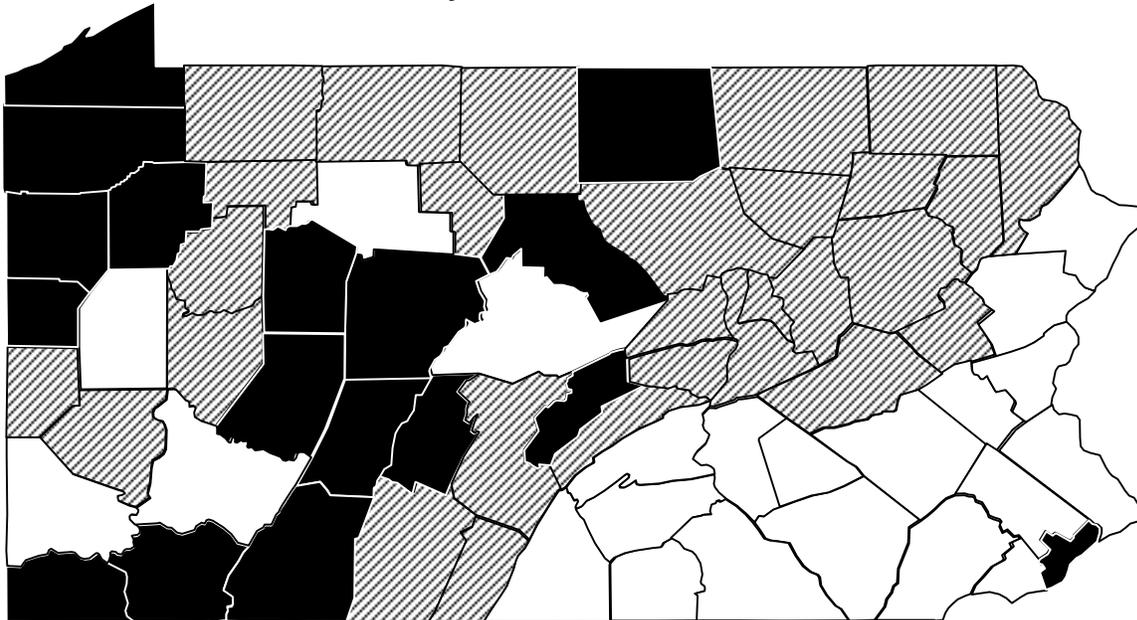
NOTE: A+ or - after the value of  $\mu$  denotes if the county rate was significantly higher or lower than the state rate. No + or - after the  $\mu$  value denotes no significant difference. State data were compared to U.S. data. Two separate formulas computed the  $\mu$  values, depending on the number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

**Percent of Children 5-17 Related to Persons with Income Below Poverty Level  
Pennsylvania Residents, 2002**



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, 2002**



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

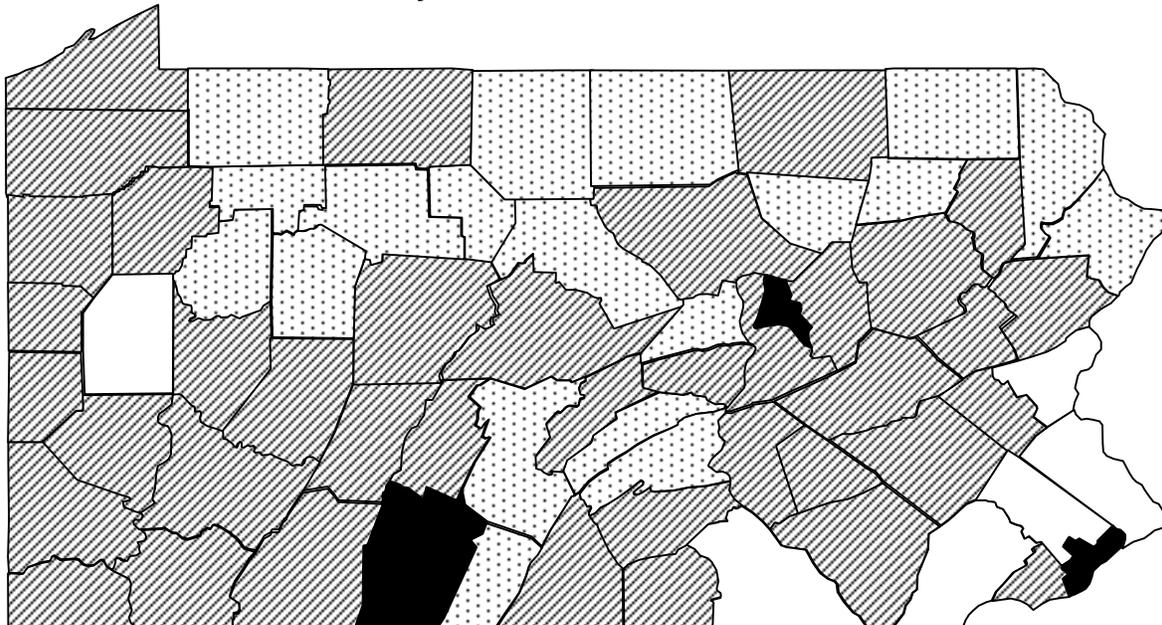
Note: Significance is determined by calculating county  $\mu$  values. The calculations were not performed for counties that had less than 10 events. Rates for counties with less than 10 events are considered unreliable. See Technical Notes.

## Infant Death Rates, 2001-03, and Percent Low Birth Weight, 2003

2001-2003				Percent			
Infant Death Rates	No.	Rate	$\mu$ (95%)	Low Birth Weight	No.	Pct.	$\mu$ (95%)
Adams	27	8.6	0.78	Adams	84	8.1	0.00
Allegheny	335	8.2	1.89	Allegheny	1,175	8.7	2.56 +
Armstrong	14	6.7	-0.38	Armstrong	55	7.7	-0.38
Beaver	30	5.5	-1.58	Beaver	143	7.9	-0.31
Bedford	19	11.6	1.99 +	Bedford	36	6.8	-1.05
Berks	114	8.0	0.83	Berks	345	7.1	-2.55 -
Blair	26	6.0	-1.06	Blair	104	7.2	-1.25
Bradford	13	6.0	-0.76	Bradford	30	4.2	-3.66 -
Bucks	114	5.4	-3.39 -	Bucks	491	7.0	-3.38 -
Butler	29	4.6	-2.55 -	Butler	135	6.4	-2.86 -
Cambria	34	7.6	0.16	Cambria	126	8.3	0.29
Cameron	1	6.0		Cameron	1	1.5	
Carbon	11	6.0	-0.70	Carbon	52	8.3	0.18
Centre	25	6.6	-0.60	Centre	103	7.7	-0.54
Chester	95	5.4	-3.16 -	Chester	389	6.4	-4.86 -
Clarion	5	4.3		Clarion	39	10.3	1.50
Clearfield	20	8.4	0.54	Clearfield	62	7.7	-0.40
Clinton	7	5.6		Clinton	30	7.4	-0.50
Columbia	19	10.3	1.47	Columbia	47	7.4	-0.62
Crawford	20	6.4	-0.64	Crawford	70	7.1	-1.10
Cumberland	40	6.0	-1.38	Cumberland	151	6.6	-2.63 -
Dauphin	63	6.6	-0.90	Dauphin	272	8.4	0.63
Delaware	142	7.0	-0.66	Delaware	493	7.2	-2.73 -
Elk	7	7.0		Elk	28	8.8	0.44
Erie	87	8.7	1.47	Erie	266	8.1	0.00
Fayette	27	6.0	-1.08	Fayette	134	8.9	1.14
Forest	3	29.7		Forest	3	9.7	
Franklin	27	5.6	-1.46	Franklin	111	6.8	-1.93
Fulton	1	2.1		Fulton	10	6.5	-0.70
Greene	12	10.0	1.03	Greene	27	6.9	-0.83
Huntingdon	8	5.7		Huntingdon	28	6.7	-1.01
Indiana	17	6.5	-0.55	Indiana	64	6.9	-1.28
Jefferson	9	5.8		Jefferson	49	9.5	1.12
Juniata	4	4.5		Juniata	17	5.9	-1.31
Lackawanna	43	6.7	-0.67	Lackawanna	161	7.5	-1.02
Lancaster	155	7.8	0.66	Lancaster	414	6.3	-5.35 -
Lawrence	28	9.4	1.25	Lawrence	82	8.4	0.33
Lebanon	27	6.3	-0.87	Lebanon	75	5.4	-3.54 -
Lehigh	94	8.1	0.93	Lehigh	335	8.7	1.36
Luzerne	67	7.5	0.06	Luzerne	218	7.1	-2.03 -
Lycoming	36	9.2	1.31	Lycoming	101	7.5	-0.81
McKean	13	8.9	0.65	McKean	38	7.5	-0.47
Mercer	33	8.6	0.87	Mercer	101	8.0	-0.13
Mifflin	19	10.9	1.69	Mifflin	41	6.9	-1.03
Monroe	44	9.5	1.65	Monroe	128	8.5	0.57
Montgomery	155	5.4	-3.95 -	Montgomery	670	6.9	-4.33 -
Montour	12	18.4	3.26 +	Montour	17	8.3	0.10
Northampton	49	5.5	-2.08 -	Northampton	274	8.8	1.43
Northumberland	26	8.8	0.88	Northumberland	72	7.5	-0.65
Perry	8	5.1		Perry	30	5.8	-1.84
Philadelphia	686	10.6	9.50 +	Philadelphia	2,579	11.8	20.05 +
Pike	4	3.4		Pike	33	8.5	0.28
Potter	4	6.0		Potter	10	4.5	-1.89
Schuylkill	22	5.1	-1.75	Schuylkill	100	6.9	-1.67
Snyder	12	8.6	0.51	Snyder	32	6.7	-1.08
Somerset	16	6.9	-0.26	Somerset	60	7.9	-0.19
Sullivan	1	6.8		Sullivan	3	7.5	
Susquehanna	6	4.5		Susquehanna	20	4.3	-2.88 -
Tioga	7	5.2		Tioga	25	5.7	-1.77
Union	5	4.0		Union	37	8.9	0.57
Venango	17	9.9	1.22	Venango	46	8.3	0.17
Warren	9	7.0		Warren	25	6.3	-1.26
Washington	37	5.9	-1.36	Washington	152	7.1	-1.70
Wayne	2	1.4		Wayne	32	6.2	-1.52
Westmoreland	61	5.9	-1.74	Westmoreland	254	7.4	-1.50
Wyoming	5	5.5		Wyoming	23	7.8	-0.18
York	71	5.1	-3.20 -	York	379	7.9	-0.51
Pennsylvania	3,179	7.4	3.97 +	Pennsylvania	11,737	8.1	2.82 +
United States (2003)	28,428	6.9		United States (2003)	324,064	7.9	

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.

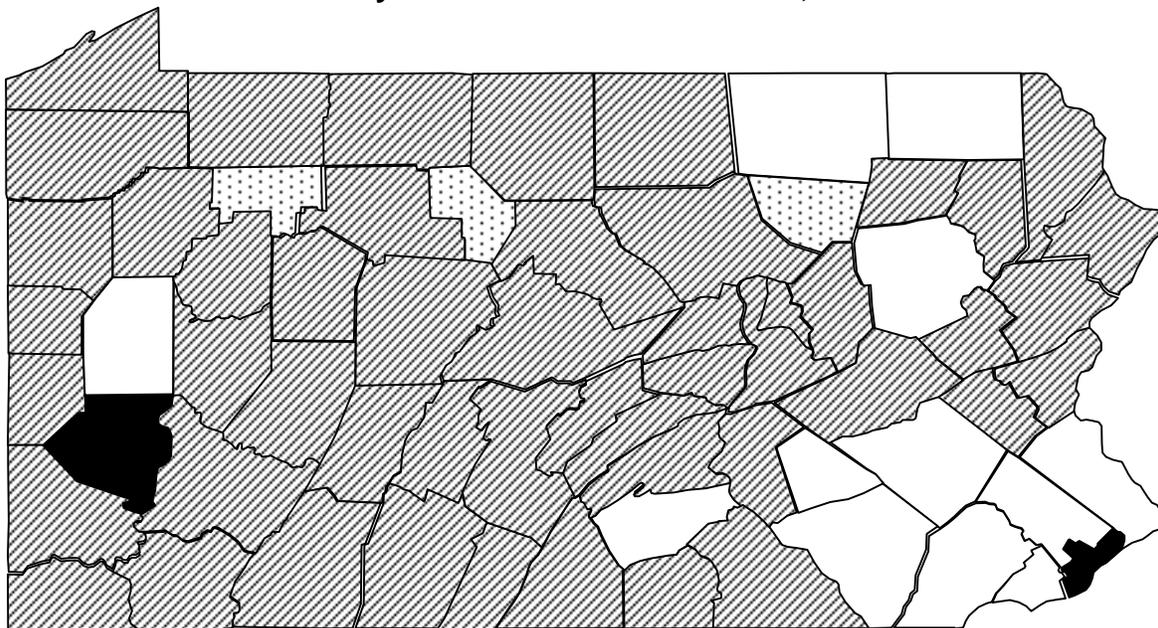
## Infant Death Rates Pennsylvania Residents, 2001-2003



**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, 2003



**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

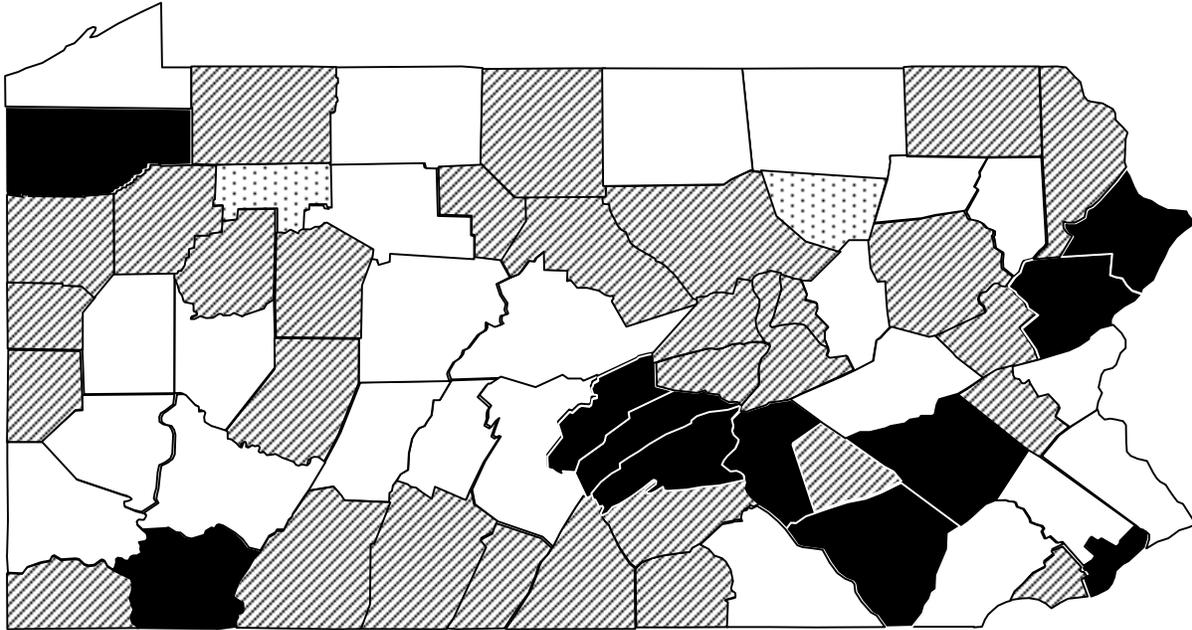
Note: Significance is determined by calculating county  $\mu$  values. The calculations were not performed for counties that had less than 10 events. Rates for counties with less than 10 events are considered unreliable. See Technical Notes.

## Percent No Prenatal Care in First Trimester and Teen Births, 2003

No Prenatal Care				Births to			
First Trimester	No.	Pct.	$\mu$ (95%)	Mothers <18	No.	Pct.	$\mu$ (95%)
Adams	163	19.8	1.27	Adams	29	2.8	-0.72
Allegheny	1,261	10.8	-20.49 -	Allegheny	364	2.7	-3.30 -
Armstrong	74	11.4	-4.01 -	Armstrong	21	3.0	-0.30
Beaver	269	17.2	-0.92	Beaver	44	2.4	-1.91
Bedford	68	14.6	-1.78	Bedford	10	1.9	-1.67
Berks	929	22.3	7.04 +	Berks	165	3.4	0.79
Blair	169	12.4	-5.47 -	Blair	39	2.7	-1.06
Bradford	83	13.6	-2.61 -	Bradford	22	3.1	-0.15
Bucks	663	14.4	-6.52 -	Bucks	70	1.0	-10.29 -
Butler	214	11.1	-7.98 -	Butler	21	1.0	-5.64 -
Cambria	195	13.7	-4.31 -	Cambria	41	2.7	-1.09
Cameron	11	18.3	0.04	Cameron	1	1.5	
Carbon	87	16.5	-0.86	Carbon	15	2.4	-1.12
Centre	171	14.0	-3.72 -	Centre	11	0.8	-4.97 -
Chester	719	15.1	-5.38 -	Chester	96	1.6	-6.93 -
Clarion	52	14.8	-1.45	Clarion	14	3.7	0.54
Clearfield	90	12.3	-3.69 -	Clearfield	25	3.1	-0.16
Clinton	62	17.6	-0.22	Clinton	14	3.4	0.23
Columbia	78	13.1	-2.87 -	Columbia	17	2.7	-0.70
Crawford	205	24.0	4.48 +	Crawford	22	2.2	-1.77
Cumberland	355	18.3	0.23	Cumberland	32	1.4	-4.81 -
Dauphin	531	20.5	3.17 +	Dauphin	124	3.8	1.95
Delaware	1,061	18.4	0.59	Delaware	214	3.1	-0.47
Elk	26	9.6	-3.29 -	Elk	5	1.6	
Erie	394	14.4	-5.03 -	Erie	137	4.2	3.25 +
Fayette	265	20.6	2.33 +	Fayette	76	5.0	3.92 +
Forest	4	14.3		Forest	0	-	
Franklin	221	16.7	-1.32	Franklin	48	2.9	-0.68
Fulton	19	17.0	-0.27	Fulton	6	3.9	
Greene	38	16.8	-0.46	Greene	12	3.1	-0.11
Huntingdon	53	13.2	-2.31 -	Huntingdon	17	4.0	0.92
Indiana	162	18.9	0.61	Indiana	20	2.2	-1.69
Jefferson	94	19.9	0.92	Jefferson	16	3.1	-0.13
Juniata	71	27.8	3.64 +	Juniata	5	1.7	
Lackawanna	284	15.1	-3.38 -	Lackawanna	57	2.7	-1.28
Lancaster	1,231	21.9	7.40 +	Lancaster	191	2.9	-1.38
Lawrence	161	18.2	0.08	Lawrence	17	1.7	-2.65 -
Lebanon	216	18.9	0.70	Lebanon	35	2.5	-1.46
Lehigh	520	17.0	-1.58	Lehigh	159	4.1	3.18 +
Luzerne	443	16.9	-1.60	Luzerne	89	2.9	-0.93
Lycoming	238	19.2	1.01	Lycoming	38	2.8	-0.82
McKean	41	9.5	-4.20 -	McKean	13	2.6	-0.75
Mercer	214	18.3	0.18	Mercer	35	2.8	-0.79
Mifflin	137	26.7	5.06 +	Mifflin	10	1.7	-2.03 -
Monroe	283	23.5	4.87 +	Monroe	42	2.7	-1.10
Montgomery	1,141	13.8	-10.16 -	Montgomery	111	1.1	-11.99 -
Montour	36	18.9	0.26	Montour	5	2.4	
Northampton	372	14.5	-4.74 -	Northampton	85	2.7	-1.57
Northumberland	156	17.8	-0.23	Northumberland	32	3.3	0.17
Perry	98	22.4	2.11 +	Perry	12	2.3	-1.15
Philadelphia	4,972	33.6	48.97 +	Philadelphia	1,510	6.8	30.48 +
Pike	40	25.6	2.20 +	Pike	6	1.5	
Potter	23	14.1	-1.20	Potter	3	1.3	
Schuylkill	159	12.5	-5.19 -	Schuylkill	45	3.1	-0.21
Snyder	94	22.0	1.89	Snyder	10	2.1	-1.34
Somerset	121	17.4	-0.48	Somerset	16	2.1	-1.70
Sullivan	9	23.1		Sullivan	4	10.0	
Susquehanna	47	16.2	-0.76	Susquehanna	11	2.4	-0.96
Tioga	46	13.5	-2.00 -	Tioga	11	2.5	-0.82
Union	73	19.7	0.72	Union	6	1.4	
Venango	82	15.8	-1.23	Venango	19	3.5	0.39
Warren	51	15.1	-1.30	Warren	15	3.7	0.56
Washington	229	11.6	-7.50 -	Washington	46	2.1	-2.88 -
Wayne	65	15.5	-1.25	Wayne	9	1.7	
Westmoreland	372	11.8	-9.19 -	Westmoreland	66	1.9	-4.28 -
Wyoming	33	12.6	-2.09 -	Wyoming	9	3.1	
York	627	15.3	-4.66 -	York	140	2.9	-1.18
Pennsylvania	21,471	18.1	20.72 +	Pennsylvania	4,610	3.2	-4.19 -
United States (2003)	603,706	15.9		United States (2003)	141,045	3.4	

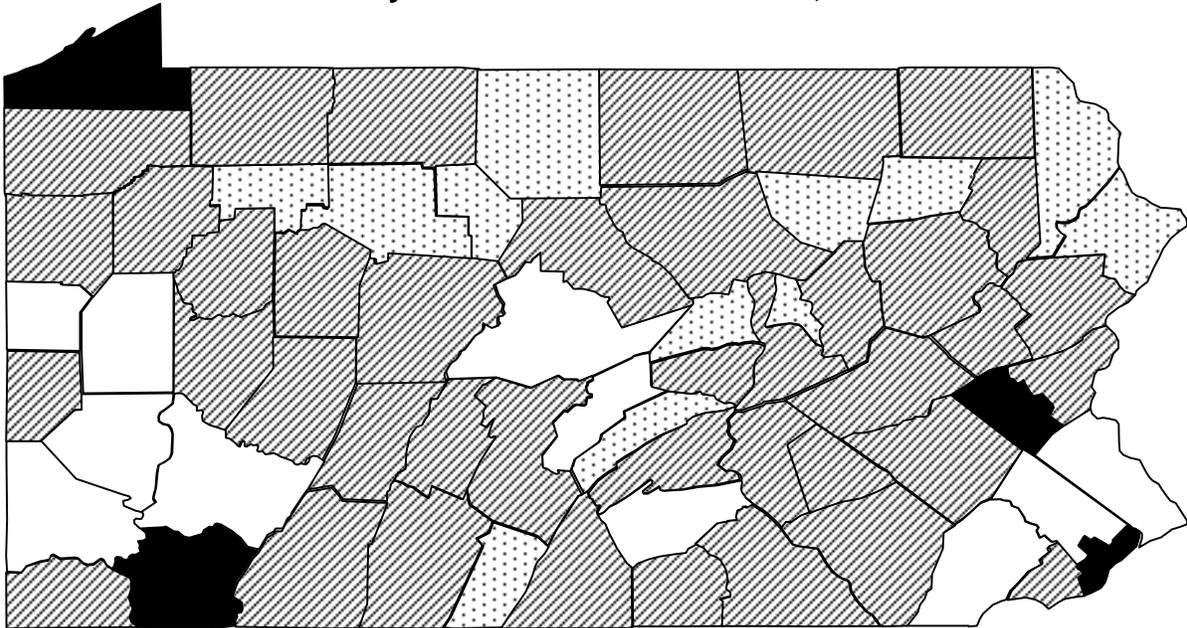
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**Percent with No Prenatal Care in First Trimester  
Pennsylvania Resident Live Births, 2003**



**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, 2003**



**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. The calculations were not performed for counties that had less than 10 events. Rates for counties with less than 10 events are considered unreliable. See Technical Notes.

## Infant Death Rates, Total and By Race/Ethnicity

2003

<b>Infant Deaths</b>	<b>No.</b>	<b>Rate</b>
Adams	9	8.7
Allegheny	120	8.8
Armstrong	5	7.0
Beaver	11	6.1
Bedford	8	15.0
Berks	30	6.2
Blair	11	7.6
Bradford	2	2.8
Bucks	36	5.1
Butler	11	5.2
Cambria	9	5.9
Cameron	0	-
Carbon	3	4.8
Centre	8	6.0
Chester	25	4.1
Clarion	1	2.6
Clearfield	7	8.7
Clinton	1	2.5
Columbia	7	11.0
Crawford	10	10.2
Cumberland	14	6.1
Dauphin	27	8.3
Delaware	50	7.3
Elk	3	9.5
Erie	18	5.5
Fayette	6	4.0
Forest	0	-
Franklin	8	4.9
Fulton	0	-
Greene	3	7.7
Huntingdon	4	9.5
Indiana	7	7.5
Jefferson	2	3.9
Juniata	1	3.5
Lackawanna	16	7.4
Lancaster	50	7.6
Lawrence	4	4.1
Lebanon	5	3.6
Lehigh	28	7.2
Luzerne	33	10.8
Lycoming	11	8.1
McKean	6	11.8
Mercer	9	7.1
Mifflin	5	8.4
Monroe	19	12.2
Montgomery	60	6.1
Montour	5	24.4
Northampton	12	3.8
Northumberland	3	3.1
Perry	0	-
Philadelphia	231	10.5
Pike	3	7.5
Potter	2	8.9
Schuylkill	10	6.9
Snyder	3	6.3
Somerset	6	7.8
Sullivan	0	-
Susquehanna	2	4.3
Tioga	1	2.3
Union	2	4.8
Venango	6	10.7
Warren	3	7.5
Washington	12	5.6
Wayne	0	-
Westmoreland	26	7.5
Wyoming	0	-
York	30	6.3
Pennsylvania	1,060	7.3
United States (2003)	28,428	6.9

**2003 Infant Deaths:**

<b>White</b>	<b>No.</b>	<b>Rate</b>
Allegheny	65	6.3
Berks	25	6.0
Bucks	30	4.8
Chester	21	4.1
Dauphin	12	5.6
Delaware	21	4.5
Erie	7	2.5
Lancaster	49	8.6
Lehigh	22	8.0
Montgomery	45	5.7
Northampton	9	3.5
Philadelphia	59	9.0
Pennsylvania	702	6.2
U.S. (2003)	18,768	5.8

<b>Black</b>	<b>No.</b>	<b>Rate</b>
Allegheny	54	21.5
Bucks	4	14.0
Chester	4	11.1
Dauphin	13	20.2
Delaware	27	17.1
Erie	10	33.4
Montgomery	14	17.5
Philadelphia	154	13.9
Pennsylvania	320	16.1
U.S. (2003)	8,437	14.1

<b>Hispanic</b>	<b>No.</b>	<b>Rate</b>
Berks	11	9.3
Chester	5	9.3
Lancaster	4	6.0
Lehigh	6	6.4
Montgomery	2	3.8
Northampton	3	7.2
Philadelphia	20	5.8
Pennsylvania	83	7.7
U.S. (2003)	5,389	5.9

**2001-03 Infant Deaths:**

<b>White</b>	<b>No.</b>	<b>Rate</b>
Allegheny	168	5.4
Berks	99	7.8
Bucks	97	5.1
Chester	76	4.9
Dauphin	38	5.8
Delaware	73	5.2
Erie	61	7.0
Lancaster	143	7.8
Lehigh	71	7.5
Montgomery	121	5.1
Northampton	42	5.3
Philadelphia	176	7.7
Pennsylvania	2160	6.3

<b>Black</b>	<b>No.</b>	<b>Rate</b>
Allegheny	158	20.5
Bucks	13	14.6
Chester	12	11.4
Dauphin	23	11.5
Delaware	63	14.0
Erie	24	23.3
Montgomery	30	13.1
Philadelphia	467	14.2
Pennsylvania	914	15.4

<b>Hispanic</b>	<b>No.</b>	<b>Rate</b>
Berks	35	11.1
Chester	10	7.2
Lancaster	23	11.7
Lehigh	29	11.4
Montgomery	5	4.0
Northampton	8	7.1
Philadelphia	67	7.6
Pennsylvania	239	8.7

<b>Asian and Pacific Islander</b>	<b>No.</b>	<b>Rate</b>
Allegheny	5	3.6
Delaware	4	3.7
Montgomery	2	1.0
Philadelphia	14	3.7
Pennsylvania	42	3.3

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

## Average Annual Incidence Rates for Selected Diseases, 2001-2003

<b>Syphilis</b>			<b>AIDS</b>			<b>Tuberculosis</b>		
	<b>No.</b>	<b>Rate</b>		<b>No.</b>	<b>Rate</b>		<b>No.</b>	<b>Rate</b>
Adams	0	-	Adams	9	3.2	Adams	8	2.8
Allegheny	31	0.8	Allegheny	320	8.4	Allegheny	95	2.5
Armstrong	6	2.8	Armstrong	6	2.8	Armstrong	0	-
Beaver	1	0.2	Beaver	16	3.0	Beaver	9	1.7
Bedford	0	-	Bedford	1	0.7	Bedford	1	0.7
Berks	0	-	Berks	104	9.1	Berks	26	2.3
Blair	0	-	Blair	12	3.1	Blair	2	0.5
Bradford	0	-	Bradford	1	0.5	Bradford	2	1.1
Bucks	14	0.8	Bucks	44	2.4	Bucks	32	1.7
Butler	2	0.4	Butler	8	1.5	Butler	5	0.9
Cambria	0	-	Cambria	15	3.3	Cambria	5	1.1
Cameron	0	-	Cameron	0	-	Cameron	0	-
Carbon	0	-	Carbon	3	1.7	Carbon	4	2.2
Centre	1	0.2	Centre	10	2.4	Centre	9	2.2
Chester	0	-	Chester	65	4.8	Chester	20	1.5
Clarion	1	0.8	Clarion	1	0.8	Clarion	2	1.6
Clearfield	0	-	Clearfield	12	4.8	Clearfield	3	1.2
Clinton	0	-	Clinton	0	-	Clinton	1	0.9
Columbia	1	0.5	Columbia	4	2.1	Columbia	2	1.0
Crawford	1	0.4	Crawford	7	2.6	Crawford	5	1.9
Cumberland	0	-	Cumberland	44	6.7	Cumberland	22	3.4
Dauphin	1	0.1	Dauphin	93	12.3	Dauphin	19	2.5
Delaware	4	0.2	Delaware	126	7.6	Delaware	45	2.7
Elk	0	-	Elk	0	-	Elk	0	-
Erie	1	0.1	Erie	35	4.2	Erie	33	3.9
Fayette	0	-	Fayette	5	1.1	Fayette	5	1.1
Forest	0	-	Forest	0	-	Forest	0	-
Franklin	0	-	Franklin	9	2.3	Franklin	7	1.8
Fulton	0	-	Fulton	0	-	Fulton	0	-
Greene	0	-	Greene	4	3.3	Greene	0	-
Huntingdon	0	-	Huntingdon	11	8.0	Huntingdon	2	1.5
Indiana	1	0.4	Indiana	6	2.2	Indiana	1	0.4
Jefferson	0	-	Jefferson	1	0.7	Jefferson	1	0.7
Juniata	0	-	Juniata	1	1.5	Juniata	1	1.5
Lackawanna	0	-	Lackawanna	28	4.4	Lackawanna	19	3.0
Lancaster	0	-	Lancaster	86	6.0	Lancaster	28	1.9
Lawrence	0	-	Lawrence	7	2.5	Lawrence	1	0.4
Lebanon	0	-	Lebanon	17	4.7	Lebanon	4	1.1
Lehigh	5	0.5	Lehigh	94	9.9	Lehigh	21	2.2
Luzerne	0	-	Luzerne	32	3.4	Luzerne	19	2.0
Lycoming	0	-	Lycoming	35	9.8	Lycoming	2	0.6
McKean	0	-	McKean	5	3.7	McKean	2	1.5
Mercer	1	0.3	Mercer	8	2.2	Mercer	4	1.1
Mifflin	0	-	Mifflin	2	1.4	Mifflin	4	2.9
Monroe	0	-	Monroe	35	7.8	Monroe	5	1.1
Montgomery	12	0.5	Montgomery	91	4.0	Montgomery	70	3.0
Montour	0	-	Montour	2	3.7	Montour	0	-
Northampton	0	-	Northampton	54	6.6	Northampton	18	2.2
Northumberland	0	-	Northumberland	10	3.6	Northumberland	1	0.4
Perry	0	-	Perry	2	1.5	Perry	2	1.5
Philadelphia	245	5.5	Philadelphia	2,625	58.8	Philadelphia	411	9.2
Pike	0	-	Pike	7	4.6	Pike	0	-
Potter	0	-	Potter	0	-	Potter	1	1.8
Schuylkill	0	-	Schuylkill	13	2.9	Schuylkill	2	0.4
Snyder	0	-	Snyder	4	3.5	Snyder	1	0.9
Somerset	1	0.4	Somerset	5	2.1	Somerset	5	2.1
Sullivan	0	-	Sullivan	2	10.3	Sullivan	0	-
Susquehanna	1	0.8	Susquehanna	4	3.2	Susquehanna	1	0.8
Tioga	0	-	Tioga	1	0.8	Tioga	2	1.6
Union	0	-	Union	14	11.1	Union	0	-
Venango	0	-	Venango	1	0.6	Venango	1	0.6
Warren	0	-	Warren	3	2.3	Warren	0	-
Washington	0	-	Washington	15	2.5	Washington	10	1.6
Wayne	0	-	Wayne	9	6.1	Wayne	1	0.7
Westmoreland	33	3.0	Westmoreland	23	2.1	Westmoreland	13	1.2
Wyoming	0	-	Wyoming	2	2.4	Wyoming	1	1.2
York	2	0.2	York	92	7.9	York	23	2.0
Pennsylvania	365	1.0	Pennsylvania	4,301	11.6	Pennsylvania	1,039	2.8
U.S. (2003)	7,177	2.5	U.S. (2003)	44,232	15.4	U.S. (2003)	14,874	5.2

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

## Average Annual Incidence Rate for Measles, 2001-2003

<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	2	0.05	Erie	0	-	Northampton	0	-
Armstrong	0	-	Fayette	0	-	Northumberland	0	-
Beaver	0	-	Forest	0	-	Perry	0	-
Bedford	3	2.00	Franklin	0	-	Philadelphia	1	0.02
Berks	0	-	Fulton	1	2.31	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	1	0.07	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	1	0.09
Dauphin	0	-	Monroe	0	-			
Delaware	9	0.54	Montgomery	0	-	Pennsylvania	18	0.05
						U.S. (2003)	56	0.02

## Average Annual Work-Related Injury Death Rate, 2001-2003

<u>Work-Related Injury Deaths</u>	<u>No.</u>	<u>Rate</u>	<u>Work-Related Injury Deaths</u>	<u>No.</u>	<u>Rate</u>	<u>Work-Related Injury Deaths</u>	<u>No.</u>	<u>Rate</u>
Adams	4	1.4	Elk	1	1.0	Montour	3	5.5
Allegheny	41	1.1	Erie	12	1.4	Northampton	22	2.7
Armstrong	5	2.3	Fayette	4	0.9	Northumberland	4	1.4
Beaver	17	3.2	Forest	0	-	Perry	3	2.3
Bedford	3	2.0	Franklin	10	2.5	Philadelphia	71	1.6
Berks	24	2.1	Fulton	3	6.9	Pike	4	2.7
Blair	8	2.1	Greene	4	3.3	Potter	0	-
Bradford	4	2.1	Huntingdon	1	0.7	Schuylkill	7	1.6
Bucks	20	1.1	Indiana	4	1.5	Snyder	3	2.6
Butler	13	2.4	Jefferson	3	2.2	Somerset	29	12.2
Cambria	15	3.3	Juniata	6	8.7	Sullivan	0	-
Cameron	0	-	Lackawanna	14	2.2	Susquehanna	2	1.6
Carbon	4	2.2	Lancaster	20	1.4	Tioga	2	1.6
Centre	6	1.4	Lawrence	9	3.2	Union	2	1.6
Chester	18	1.3	Lebanon	13	3.6	Venango	5	2.9
Clarion	3	2.4	Lehigh	9	0.9	Warren	4	3.1
Clearfield	9	3.6	Luzerne	10	1.1	Washington	8	1.3
Clinton	3	2.7	Lycoming	5	1.4	Wayne	6	4.1
Columbia	3	1.6	McKean	5	3.7	Westmoreland	19	1.7
Crawford	4	1.5	Mercer	10	2.8	Wyoming	1	1.2
Cumberland	9	1.4	Mifflin	2	1.4	York	20	1.7
Dauphin	14	1.8	Monroe	6	1.3			
Delaware	25	1.5	Montgomery	25	1.1	Pennsylvania	643	1.7
						U.S. (2003)	5,559	1.9

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

## Selected Birth Statistics by Race and Hispanic Origin of Mother, 2003

Low Birth Weight			No Prenatal Care First Trimester			Births to Mother <18		
	No.	Pct.		No.	Pct.		No.	Pct.
<b>White:</b>			<b>White:</b>			<b>White:</b>		
Allegheny	744	7.2	Allegheny	785	8.5	Allegheny	146	1.4
Berks	282	6.8	Berks	735	20.4	Berks	114	2.7
Bucks	414	6.7	Bucks	532	13.0	Bucks	49	0.8
Chester	308	6.0	Chester	489	12.2	Chester	53	1.0
Dauphin	138	6.5	Dauphin	276	15.8	Dauphin	43	2.0
Delaware	261	5.6	Delaware	491	12.2	Delaware	75	1.6
Erie	213	7.6	Erie	283	12.0	Erie	89	3.2
Lancaster	318	5.6	Lancaster	1,092	22.1	Lancaster	101	1.8
Lehigh	208	7.5	Lehigh	309	14.0	Lehigh	69	2.5
Montgomery	500	6.3	Montgomery	751	11.1	Montgomery	69	0.9
Northampton	220	8.5	Northampton	267	12.5	Northampton	40	1.6
Philadelphia	508	7.8	Philadelphia	1,077	22.3	Philadelphia	206	3.1
Pennsylvania	7,780	6.9	Pennsylvania	13,875	14.7	Pennsylvania	2,238	2.0
U.S. (2003)	223,612	6.9	U.S. (2003)	427,590	14.3	U.S. (2003)	96,253	3.0
<b>Black:</b>			<b>Black:</b>			<b>Black:</b>		
Allegheny	372	14.9	Allegheny	403	21.5	Allegheny	208	8.3
Bucks	38	13.3	Bucks	60	33.7	Bucks	9	3.1
Chester	33	9.2	Chester	93	32.0	Chester	23	6.4
Dauphin	89	14.0	Dauphin	152	31.7	Dauphin	61	9.5
Delaware	186	11.8	Delaware	446	35.5	Delaware	126	8.0
Erie	33	11.1	Erie	77	32.6	Erie	33	11.1
Montgomery	88	11.1	Montgomery	191	29.7	Montgomery	35	4.4
Philadelphia	1,643	15.0	Philadelphia	2,771	40.1	Philadelphia	998	9.0
Pennsylvania	2,795	14.2	Pennsylvania	4,823	35.0	Pennsylvania	1,671	8.4
U.S. (2003)	80,088	13.4	U.S. (2003)	134,875	24.1	U.S. (2003)	39,581	6.6
<b>Hispanic:</b>			<b>Hispanic:</b>			<b>Hispanic:</b>		
Berks	108	9.2	Berks	383	39.5	Berks	96	8.2
Chester	35	6.5	Chester	168	36.6	Chester	32	6.0
Lancaster	70	10.6	Lancaster	94	19.2	Lancaster	78	11.8
Lehigh	95	10.2	Lehigh	174	23.8	Lehigh	89	9.6
Montgomery	38	7.2	Montgomery	140	31.0	Montgomery	10	1.9
Northampton	27	6.5	Northampton	67	20.2	Northampton	40	9.6
Philadelphia	353	10.3	Philadelphia	905	35.6	Philadelphia	335	9.7
Pennsylvania	957	8.9	Pennsylvania	2,609	30.8	Pennsylvania	883	8.2
U.S. (2003)	60,973	6.7	U.S. (2003)	195,977	22.5	U.S. (2003)	49,311	5.4
<b>Asian and Pacific Islander:</b>			<b>Asian and Pacific Islander:</b>			<b>Asian and Pacific Islander:</b>		
Allegheny	32	6.8	Allegheny	33	7.9	Allegheny	3	0.6
Delaware	25	6.5	Delaware	75	24.8	Delaware	0	-
Montgomery	48	6.7	Montgomery	111	18.7	Montgomery	1	0.1
Philadelphia	87	7.2	Philadelphia	298	37.0	Philadelphia	19	1.5
Pennsylvania	353	7.8	Pennsylvania	779	22.2	Pennsylvania	35	0.8
U.S. (2003)	17,194	7.8	U.S. (2003)	29,728	14.6	U.S. (2003)	2,382	1.1

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, 2001-2003

All Causes	No.	Rate	CI (95%)
North Central	20,010	836.8	825.21-848.39 -
Northeastern	49,918	868.8	861.18-876.42
Northwestern	30,929	866.3	856.65-875.95
South Central	44,960	833.7	825.99-841.41 -
Southeastern	143,264	883.0	878.43-887.57 +
Southwestern	98,853	884.9	879.38-890.42 +
Pennsylvania	387,934	872.0	869.26-874.74 +
U.S. (2003)	2,443,930	831.2	830.16-832.24

### Cardiovascular

Disease	No.	Rate	CI (95%)
North Central	8,127	334.0	326.74-341.26
Northeastern	20,041	337.1	332.43-341.77 +
Northwestern	12,161	331.7	325.80-337.60
South Central	17,608	322.6	317.83-327.37 -
Southeastern	52,854	320.5	317.77-323.23 -
Southwestern	38,646	334.7	331.36-338.04 +
Pennsylvania	149,437	328.1	326.44-329.76 +
U.S. (2003)	901,753	305.8	305.17-306.43

Lung Cancer	No.	Rate	CI (95%)
North Central	1,138	47.7	44.93-50.47 -
Northeastern	2,919	51.5	49.63-53.37 -
Northwestern	1,876	52.9	50.51-55.29
South Central	2,733	49.9	48.03-51.77 -
Southeastern	8,995	55.8	54.65-56.95 +
Southwestern	6,245	56.5	55.10-57.90 +
Pennsylvania	23,906	54.0	53.32-54.68
U.S. (2003)	157,521	53.9	53.63-54.17

### Diseases of Heart

Disease	No.	Rate	CI (95%)
North Central	6,366	262.2	255.76-268.64 +
Northeastern	15,921	268.2	264.03-272.37 +
Northwestern	9,404	257.3	252.10-262.50
South Central	13,637	249.9	245.71-254.09 -
Southeastern	39,849	241.9	239.52-244.28 -
Southwestern	30,327	263.6	260.63-266.57 +
Pennsylvania	115,504	254.1	252.63-255.57 +
U.S. (2003)	684,462	232.1	231.55-232.65

### Female

Breast Cancer	No.	Rate	CI (95%)
North Central	344	26.1	23.34-28.86
Northeastern	858	26.9	25.10-28.70
Northwestern	504	25.7	23.46-27.94
South Central	755	24.7	22.94-26.46 -
Southeastern	2,699	29.5	28.39-30.61 +
Southwestern	1,702	27.4	26.10-28.70
Pennsylvania	6,862	27.6	26.95-28.25 +
U.S. (2002)	41,514	25.6	25.35-25.85

### Stroke

Disease	No.	Rate	CI (95%)
North Central	1,322	53.8	50.90-56.70
Northeastern	2,839	47.4	45.66-49.14 -
Northwestern	1,946	52.5	50.17-54.83 -
South Central	2,960	54.2	52.25-56.15
Southeastern	10,008	60.3	59.12-61.48 +
Southwestern	6,132	52.3	50.99-53.61 -
Pennsylvania	25,207	54.9	54.22-55.58 +
U.S. (2003)	157,803	53.6	53.34-53.86

### Intentional Self-harm

(Suicide)	No.	Rate	CI (95%)
North Central	198	9.5	8.18-10.82
Northeastern	540	11.9	10.90-12.90 +
Northwestern	302	10.4	9.23-11.57
South Central	496	10.3	9.39-11.21
Southeastern	1,418	9.6	9.10-10.10 -
Southwestern	968	11.2	10.49-11.91 +
Pennsylvania	3,922	10.4	10.07-10.73
U.S. (2003)	30,642	10.5	10.38-10.62

### Motor Vehicle

Accidents	No.	Rate	CI (95%)
North Central	355	16.3	14.60-18.00 +
Northeastern	653	14.3	13.20-15.40 +
Northwestern	507	17.4	15.89-18.91 +
South Central	753	16.1	14.95-17.25 +
Southeastern	1,526	10.3	9.78-10.82 -
Southwestern	980	11.4	10.69-12.11 -
Pennsylvania	4,774	12.6	12.24-12.96 -
U.S. (2003)	44,059	15.0	14.86-15.14

Assault (Homicide)	No.	Rate	CI (95%)
North Central	33	1.6	1.05-2.15 -
Northeastern	138	3.2	2.67-3.73 -
Northwestern	52	1.9	1.38-2.42 -
South Central	114	2.5	2.04-2.96 -
Southeastern	1,243	8.7	8.22-9.18 +
Southwestern	386	4.9	4.41-5.39 -
Pennsylvania	1,966	5.5	5.26-5.74 -
U.S. (2003)	17,096	5.8	5.71-5.89

NOTES: A + or - after the confidence interval (CI) denotes if the district age-adjusted death 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. Rates/percents based on small numbers can be unreliable.  
See Technical Notes section.

# Health Status Indicators by Department of Health District

## Infant Deaths, Number and Average Annual Rate By Race and Hispanic Origin, 2001-2003

All Infant Deaths	No.	Rate	$\mu$ (95%)
North Central	167	7.8	0.68
Northeastern	325	6.9	-1.27
Northwestern	252	8.2	1.64
South Central	340	6.2	-3.27 -
Southeastern	1,483	7.8	2.04 +
Southwestern	612	7.1	-1.03
Pennsylvania	3,179	7.4	3.97 +
U.S. (2003)	28,428	6.9	

White	No.	Rate	Black	No.	Rate	Hispanic	No.	Rate
North Central	157	7.7	North Central	6	16.1	North Central	2	8.2
Northeastern	271	6.4	Northeastern	44	23.8	Northeastern	53	10.6
Northwestern	212	7.4	Northwestern	36	23.6	Northwestern	5	10.2
South Central	292	6.0	South Central	43	12.9	South Central	20	6.9
Southeastern	806	6.2	Southeastern	609	14.1	Southeastern	151	8.4
Southwestern	422	5.7	Southwestern	176	19.3	Southwestern	8	8.9
Pennsylvania	2,160	6.3	Pennsylvania	914	15.4	Pennsylvania	239	8.7
U.S. (2003)	18,768	5.8	U.S. (2003)	8,437	14.1	U.S. (2003)	5,389	5.9

## Infant Deaths, Number and Rate By Race and Hispanic Origin, 2003

All Infant Deaths	No.	Rate	$\mu$ (95%)
North Central	45	6.2	-1.06
Northeastern	116	7.2	-0.15
Northwestern	69	6.8	-0.56
South Central	122	6.6	-1.11
Southeastern	492	7.6	0.90
Southwestern	216	7.5	0.40
Pennsylvania	1,060	7.3	1.84
U.S. (2003)	28,428	6.9	

White	No.	Rate	Black	No.	Rate	Hispanic	No.	Rate
North Central	41	6.0	North Central	4	32.0	North Central	2	17.2
Northeastern	93	6.9	Northeastern	17	25.8	Northeastern	18	9.3
Northwestern	57	6.1	Northwestern	11	23.8	Northwestern	1	4.8
South Central	98	6.1	South Central	21	19.3	South Central	9	7.8
Southeastern	260	6.2	Southeastern	207	14.2	Southeastern	49	7.0
Southwestern	153	6.1	Southwestern	60	20.1	Southwestern	4	9.9
Pennsylvania	702	6.2	Pennsylvania	320	16.1	Pennsylvania	83	7.7
U.S. (2003)	18,768	5.8	U.S. (2003)	8,437	14.1	U.S. (2003)	5,389	5.9

Note: A + or - after the value of  $\mu$  denotes if the district 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. The value of  $\mu$  was not calculated for rates/percents based on less than 10 events or for rates by race and Hispanic origin. Rates/percents based on small numbers can be unreliable. See Technical Notes.

# Health Status Indicators by Department of Health District

## Selected Diseases

### Total Number and Average Annual Rate, 2001-2003

<b>Syphilis</b>	<b>No.</b>	<b>Rate</b>	<b>Tuberculosis</b>	<b>No.</b>	<b>Rate</b>
North Central	2	0.10	North Central	21	1.0
Northeastern	6	0.13	Northeastern	89	2.0
Northwestern	4	0.14	Northwestern	52	1.8
South Central	3	0.06	South Central	95	2.0
Southeastern	275	1.88	Southeastern	634	4.3
Southwestern	75	0.90	Southwestern	148	1.8
Pennsylvania	365	0.99	Pennsylvania	1,039	2.8
U.S. (2003)	7,177	2.50	U.S. (2003)	14,874	5.2
<b>AIDS</b>	<b>No.</b>	<b>Rate</b>	<b>Measles</b>	<b>No.</b>	<b>Rate</b>
North Central	83	4.1	North Central	0	-
Northeastern	268	6.0	Northeastern	0	-
Northwestern	80	2.8	Northwestern	0	-
South Central	293	6.3	South Central	5	0.11
Southeastern	3,154	21.6	Southeastern	11	0.08
Southwestern	423	5.1	Southwestern	2	0.02
Pennsylvania	4,301	11.6	Pennsylvania	18	0.05
U.S. (2003)	44,232	15.4	U.S. (2003)	56	0.02

### Low Birth Weight, Number and Percent, By Race and Hispanic Origin, 2003

<b>All Births</b>	<b>No.</b>	<b>Pct.</b>	<b><math>\mu</math> (95%)</b>
North Central	507	7.0	-3.43 -
Northeastern	1,276	8.0	-0.46
Northwestern	810	8.0	-0.37
South Central	1,338	7.3	-3.97 -
Southeastern	5,481	8.5	3.72 +
Southwestern	2,325	8.0	-0.62
Pennsylvania	11,737	8.1	2.82 +
U.S. (2003)	324,064	7.9	

<b>White</b>	<b>No.</b>	<b>Pct.</b>	<b>Black</b>	<b>No.</b>	<b>Pct.</b>	<b>Hispanic</b>	<b>No.</b>	<b>Pct.</b>
North Central	464	6.8	North Central	12	9.6	North Central	12	10.3
Northeastern	1,015	7.5	Northeastern	102	15.7	Northeastern	164	8.6
Northwestern	724	7.7	Northwestern	57	12.4	Northwestern	18	8.6
South Central	1,087	6.8	South Central	149	13.8	South Central	94	8.1
Southeastern	2,690	6.5	Southeastern	2,035	14.1	Southeastern	639	9.2
Southwestern	1,800	7.2	Southwestern	440	14.7	Southwestern	30	7.5
Pennsylvania	7,780	6.9	Pennsylvania	2,795	14.2	Pennsylvania	957	8.9
U.S. (2003)	223,612	6.9	U.S. (2003)	80,088	13.4	U.S. (2003)	60,973	6.7

Note: A + or - after the value of  $\mu$  denotes if the district 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. 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. Rates/percents based on small numbers can be unreliable. See Technical Notes. Unknown health district included in state total.

# 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, 2003

All Births	No.	Pct.	m (95%)
North Central	1,069	16.6	-3.13 -
Northeastern	2,174	16.7	-4.15 -
Northwestern	1,425	16.1	-4.89 -
South Central	2,728	17.6	-1.62
Southeastern	10,875	22.0	22.52 +
Southwestern	3,200	12.6	-22.77 -
Pennsylvania	21,471	18.1	20.72 +
U.S. (2003)	603,706	15.9	

White	No.	Pct.	Black	No.	Pct.	Hispanic	No.	Pct.
North Central	980	16.1	North Central	45	40.5	North Central	20	19.4
Northeastern	1,615	14.6	Northeastern	177	36.8	Northeastern	400	26.1
Northwestern	1,240	15.0	Northwestern	133	34.0	Northwestern	40	25.0
South Central	2,170	16.0	South Central	261	30.0	South Central	288	29.7
Southeastern	5,322	15.9	Southeastern	3,680	38.2	Southeastern	1,799	33.7
Southwestern	2,548	11.4	Southwestern	527	23.2	Southwestern	62	17.3
Pennsylvania	13,875	14.7	Pennsylvania	4,823	35.0	Pennsylvania	2,609	30.8
U.S. (2003)	427,590	14.3	U.S. (2003)	134,875	24.1	U.S. (2003)	195,977	22.5

## Live Births to Mothers Under Age 18, Number and Percent, By Race and Hispanic Origin, 2003

All Births	No.	Pct.	m (95%)
North Central	173	2.4	-3.86 -
Northeastern	482	3.0	-1.44
Northwestern	319	3.2	0.00
South Central	507	2.8	-3.06 -
Southeastern	2,402	3.7	7.24 +
Southwestern	727	2.5	-6.78 -
Pennsylvania	4,610	3.2	-4.19 -
U.S. (2003)	141,045	3.4	

White	No.	Pct.	Black	No.	Pct.	Hispanic	No.	Pct.
North Central	156	2.3	North Central	8	6.4	North Central	6	5.2
Northeastern	311	2.3	Northeastern	39	5.9	Northeastern	164	8.5
Northwestern	260	2.8	Northwestern	42	9.1	Northwestern	21	10.0
South Central	345	2.2	South Central	99	9.1	South Central	89	7.7
Southeastern	710	1.7	Southeastern	1,231	8.5	Southeastern	585	8.4
Southwestern	456	1.8	Southwestern	252	8.4	Southwestern	18	4.5
Pennsylvania	2,238	2.0	Pennsylvania	1,671	8.4	Pennsylvania	883	8.2
U.S. (2003)	96,253	3.0	U.S. (2003)	39,581	6.6	U.S. (2003)	49,311	5.4

Note: A + or - after the value of  $\mu$  denotes if the district 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 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/percents by race and Hispanic Origin. Rates/percents based on small numbers can be unreliable. 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 2003 data. The latest available U.S. death statistics are preliminary 2003 data (female breast cancer are final 2002 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. Census Bureau 2002 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 2001 through 2003, used to compute rates were produced jointly by the U.S. Census Bureau 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 and Research 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 female 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-10) codes** for the selected causes of death shown in this report are as follows:

	<u>ICD-10</u>
Motor Vehicle Accidents	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)	U03, X60-X84, Y87.0
Lung Cancer	C33-C34
Female Breast Cancer	C50 (sex = female)
Cardiovascular Disease	I00-I78
Diseases of Heart	I00-I09, I11, I13, I20-I51
Stroke	I60-I69
Assault (Homicide)	U01-U02, 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 reports for Health Status Indicators prior to the 2001 issue 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 reports prior to the 2001 issue.** 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 (2001-2003) age-adjusted death rate for suicide of 10.4 to calculate an estimated SE. The rate was based on 3,922 suicides. The square root of 3,922 is 62.63. By dividing the rate of 10.4 by 62.63, one obtains the estimated SE of 0.1661. 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  $10.4 \pm (1.96 \times 0.1661)$  and the result is  $10.4 \pm 0.33$ . Then, by subtracting and adding 0.33 against the original rate of 10.4, a range can be calculated and considered the estimated 95% confidence interval for the state, i.e., 10.07 - 10.73. One could then state, with 95% certainty that the actual age-adjusted suicide rate for the state during 2001-2003 was between 10.07 and 10.73.

To compare a particular county's age-adjusted suicide rate for 2001-2003 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, Bedford County's age-adjusted suicide rate for 2001-2003 of 16.0 (based on 23 deaths) seems much higher than the corresponding state rate of 10.4. However, calculation of a 95% CI for Bedford County's rate would produce a rather wide range of 9.46-22.54. Since this range for Bedford County also includes 10.4 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 1990-1995, the other for 1990-1999. 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:

$$\begin{aligned} o &= 58 \\ e &= (9.5/1,000) 4,205 = 39.9 \end{aligned}$$

1.  $\sqrt{e} = \sqrt{39.9} = 6.3$
2.  $(o - e) = 58 - 39.9 = 18.1$
3.  $(o - e) / \sqrt{e} = 18.1 / 6.3 = 2.9$  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<sub>1</sub> = rate for County 1
- r<sub>2</sub> = 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<sub>1</sub> = confidence limit for County 1 rate
- CL<sub>2</sub> = 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) for each rate before the above formula can be calculated for CI. The formula for 95% confidence is as follows:

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

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<sub>2</sub> in the following formula.

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

$$R = (r_1 / r_2)$$

where:

- r<sub>1</sub> = rate for County 1
- r<sub>2</sub> = 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<sub>1</sub> = number of events for County 1
- d<sub>2</sub> = 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 and Research 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.

Birth multiple-year data that can be used to compute indicators by race and Hispanic Origin are available for selected municipalities. These municipalities were selected according to the following criteria – a city or borough with 2000 enumerated population of 20,000 or more and having at least 100 annual resident live births to black mothers or mothers of Hispanic origin are included in these tabulations. (Please also refer to another one of our publications, *Maternal and Child Health Status Indicators for Pennsylvania and Major Municipalities*, to easily obtain various health statistics at the municipality level.)

All additional data available, except minor civil division population and poverty status figures, will be updated every year, i.e., when 2004 data are available, 2000-2004 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). More recent tabulations are available in Portable Document Format (PDF) files and by visiting the Health Statistics pages of the Department's website at [www.health.state.pa.us/stats](http://www.health.state.pa.us/stats).

#### **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 Divisions, Five-Year Summary

Resident Infant Deaths for State, Counties and Minor Civil Divisions, Five-Year Summary

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

Population for State and Counties by Age Group

Population for Minor Civil Division by Age Group, 2000 Enumerated Only\*

Related Children Under 18 Years of Age Living with Person/s with Income in 2002 Below Poverty Level for State and Counties – Selected Minor Civil Divisions, Number and Percent, 2000 Enumerated Only

\*2000 enumerated population data can be accessed via the U.S. Census Bureau web site at [www.census.gov](http://www.census.gov).

# Pennsylvania Health Districts and Counties

