

**Health Status Indicators
for Pennsylvania Counties
and Health Districts
2002 Report**

Bureau of Health Statistics and Research
Pennsylvania Department of Health
Harrisburg, Pa
May, 2002

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

Age-adjusted mortality rates were calculated in this report and in the 2001 report using a different standard population (U.S. 2000 standard million) than was used for the rates that appeared in reports prior to the 2001 issue (U.S. 1940). Therefore, the age-adjusted mortality rates in this report and the 2001 report are not comparable to any age-adjusted rates that appeared in Health Status Indicators reports prior to the 2001 issue or any other age-adjusted mortality rates that were calculated using a different standard million population.

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

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 2000. Indicators updated with 2001 data will appear in the 2003 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 this 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 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 2000 or 2010 objectives. They are meant to be a separate set of health data items for assessing and comparing health status, as opposed to tracking progress in achieving objectives. Some of the indicators do appear as a unit of measurement for a 2000 or 2010 objective; some indicators are similar to but are not exactly the same measurement used in a 2000 or 2010 objective; and, some indicators do not appear in any 2000 or 2010 objective.

Through the release of this report, the Bureau of Health Statistics 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 and 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

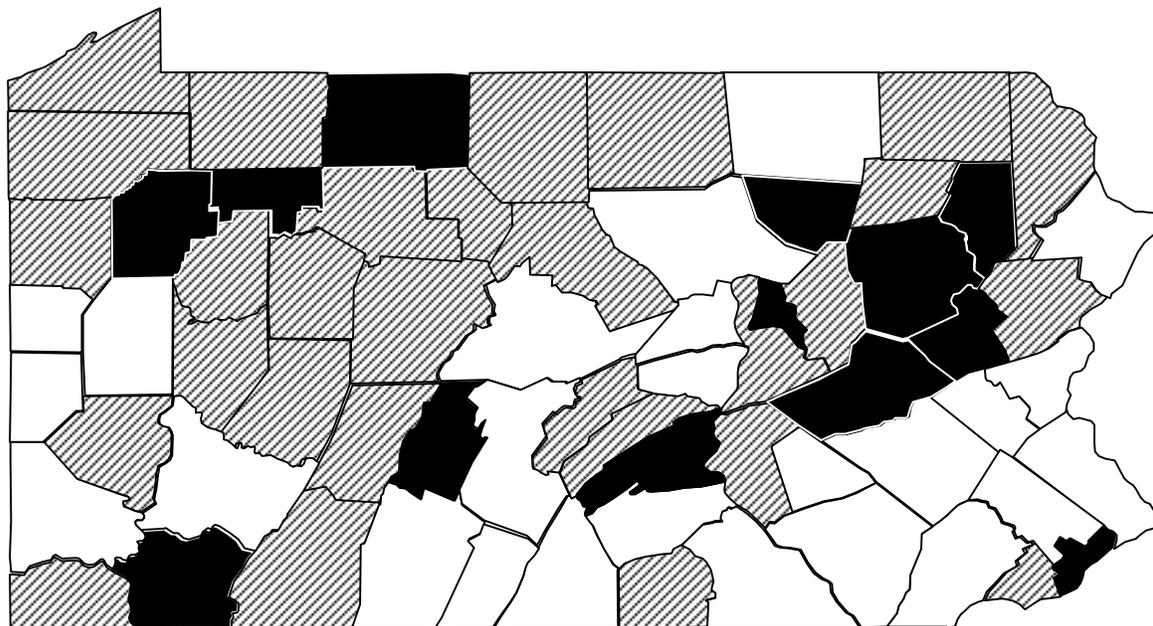
The latest multiple or single-year numbers and rates or ratios for health status indicators by county and by Pennsylvania Department of Health District are presented in summary data table format.

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 32-35) 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, 1998-2000

All Causes	No.	Rate	CI (95%)	All Causes	No.	Rate	CI (95%)
Adams	2,448	837.0	803.84-870.16	Lancaster	12,523	819.9	805.54-834.26 -
Allegheny	45,433	867.1	859.13-875.07	Lawrence	3,418	832.1	804.20-860.00 -
Armstrong	2,569	860.0	826.74-893.26	Lebanon	3,731	813.5	787.40-839.60 -
Beaver	6,271	840.2	819.40-861.00 -	Lehigh	9,368	803.8	787.52-820.08 -
Bedford	1,492	800.2	759.60-840.80 -	Luzerne	13,279	927.8	912.02-943.58 +
Berks	10,902	834.5	818.84-850.16 -	Lycoming	3,651	840.5	813.24-867.76 -
Blair	4,757	925.6	899.30-951.90 +	McKean	1,730	956.8	911.71-1,001.89 +
Bradford	1,842	816.7	779.40-854.00 -	Mercer	4,363	876.2	850.20-902.20
Bucks	14,743	840.9	827.33-854.47 -	Mifflin	1,495	834.1	791.82-876.38
Butler	4,893	843.9	820.25-867.55 -	Monroe	3,150	861.2	831.13-891.27
Cambria	5,825	851.3	829.44-873.16	Montgomery	20,973	768.9	758.49-779.31 -
Cameron	230	919.1	800.32-1,037.88	Montour	680	950.4	878.97-1,021.83 +
Carbon	2,214	910.5	872.57-948.43 +	Northampton	7,278	776.8	758.95-794.65 -
Centre	2,466	767.1	736.82-797.38 -	Northumberland	3,681	895.1	866.18-924.02
Chester	9,381	775.6	759.90-791.30 -	Perry	1,160	932.9	879.21-986.59 +
Clarion	1,269	882.3	833.76-930.84	Philadelphia	52,890	1,076.8	1,067.62-1,085.98 +
Clearfield	2,682	848.0	815.91-880.09	Pike	886	628.1	586.74-669.46 -
Clinton	1,250	891.7	842.27-941.13	Potter	555	825.6	756.91-894.29
Columbia	2,022	860.6	823.09-898.11	Schuylkill	6,197	935.0	911.72-958.28 +
Crawford	2,870	885.5	853.10-917.90	Snyder	961	790.0	740.05-839.95 -
Cumberland	5,888	803.6	783.07-824.13 -	Somerset	2,801	863.5	831.52-895.48
Dauphin	7,337	866.2	846.38-886.02	Sullivan	307	996.7	885.21-1,108.19 +
Delaware	17,316	861.7	848.87-874.53	Susquehanna	1,335	866.2	819.73-912.67
Elk	1,124	843.0	793.72-892.28	Tioga	1,326	867.3	820.62-913.98
Erie	8,184	874.9	855.94-893.86	Union	1,029	785.1	737.13-833.07 -
Fayette	5,474	914.6	890.37-938.83 +	Venango	1,965	909.1	868.90-949.30 +
Forest	238	1,108.9	968.02-1,249.78 +	Warren	1,491	877.9	833.34-922.46
Franklin	3,775	810.5	784.64-836.36 -	Washington	7,167	848.1	828.46-867.74 -
Fulton	383	783.9	705.39-862.41 -	Wayne	1,631	890.2	847.00-933.40
Greene	1,341	898.9	850.79-947.01	Westmoreland	12,872	835.4	820.97-849.83 -
Huntingdon	1,247	812.4	767.31-857.49 -	Wyoming	788	855.8	796.05-915.55
Indiana	2,677	881.2	847.82-914.58	York	9,747	809.9	793.82-825.98 -
Jefferson	1,615	873.5	830.90-916.10	Pennsylvania	385,834	868.8	866.06-871.54 -
Juniata	716	924.2	856.50-991.90	United States (2000)	2,404,624	872.4	871.30-873.50
Lackawanna	8,532	903.4	884.23-922.57 +				



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, 1998-2000

Cardiovascular

Disease	No.	Rate	CI (95%)
Adams	1,065	358.9	337.34-380.46
Allegheny	18,774	343.3	338.39-348.21
Armstrong	1,102	353.7	332.82-374.58
Beaver	2,502	326.3	313.51-339.09 -
Bedford	671	350.6	324.07-377.13
Berks	4,540	338.3	328.46-348.14
Blair	2,097	393.4	376.56-410.24 +
Bradford	790	342.2	318.34-366.06
Bucks	5,574	319.9	311.50-328.30 -
Butler	2,118	357.0	341.80-372.20
Cambria	2,450	340.2	326.73-353.67
Cameron	84	321.1	252.43-389.77
Carbon	1,003	402.3	377.40-427.20 +
Centre	1,023	321.1	301.42-340.78 -
Chester	3,613	302.2	292.35-312.05 -
Clarion	613	414.0	381.23-446.77 +
Clearfield	1,123	342.3	322.28-362.32
Clinton	492	341.6	311.41-371.79
Columbia	980	407.5	381.99-433.01 +
Crawford	1,190	358.4	338.04-378.76
Cumberland	2,439	328.9	315.85-341.95 -
Dauphin	3,018	349.8	337.32-362.28
Delaware	6,742	321.9	314.22-329.58 -
Elk	436	314.3	284.80-343.80
Erie	3,429	358.6	346.60-370.60 +
Fayette	2,393	381.8	366.50-397.10 +
Forest	101	449.2	361.59-536.81 +
Franklin	1,421	299.2	283.64-314.76 -
Fulton	146	293.8	246.14-341.46 -
Greene	576	374.1	343.55-404.65
Huntingdon	550	352.5	323.04-381.96
Indiana	1,070	346.1	325.36-366.84
Jefferson	767	400.1	371.78-428.42 +
Juniata	301	384.7	341.24-428.16
Lackawanna	3,927	394.6	382.26-406.94 +
Lancaster	5,102	328.9	319.87-337.93 -
Lawrence	1,553	359.2	341.33-377.07
Lebanon	1,554	325.4	309.22-341.58 -
Lehigh	3,755	310.6	300.67-320.53 -
Luzerne	6,340	414.0	403.81-424.19 +
Lycoming	1,590	354.9	337.46-372.34
McKean	772	409.9	380.98-438.82 +
Mercer	1,810	351.6	335.40-367.80
Mifflin	673	366.5	338.81-394.19
Monroe	1,154	322.1	303.52-340.68 -
Montgomery	7,960	282.5	276.29-288.71 -
Montour	286	374.0	330.65-417.35
Northampton	2,943	306.1	295.04-317.16 -
Northumberland	1,569	366.4	348.27-384.53 +
Perry	459	373.0	338.88-407.12
Philadelphia	19,432	381.1	375.74-386.46 +
Pike	328	231.3	206.27-256.33 -
Potter	206	298.4	257.65-339.15 -
Schuylkill	2,772	396.9	382.12-411.68 +
Snyder	395	322.3	290.52-354.08
Somerset	1,253	370.5	349.99-391.01 +
Sullivan	105	314.4	254.26-374.54
Susquehanna	567	353.9	324.77-383.03
Tioga	548	350.7	321.34-380.06
Union	466	347.4	315.86-378.94
Venango	815	368.0	342.73-393.27
Warren	634	361.2	333.08-389.32
Washington	2,872	327.7	315.71-339.69 -
Wayne	737	387.8	359.80-415.80 +
Westmoreland	5,578	350.3	341.11-359.49
Wyoming	336	360.7	322.13-399.27
York	3,847	317.2	307.18-327.22 -
Pennsylvania	157,531	343.7	342.00-345.40 +
United States (2000)	934,110	338.8	338.11-339.49

Diseases of Heart	No.	Rate	CI (95%)
Adams	835	281.3	262.22-300.38
Allegheny	14,862	272.6	268.22-276.98
Armstrong	891	286.2	267.41-304.99
Beaver	2,058	269.0	257.38-280.62
Bedford	487	255.2	232.53-277.87
Berks	3,564	266.8	258.04-275.56
Blair	1,722	324.0	308.70-339.30 +
Bradford	644	279.6	258.01-301.19
Bucks	4,142	237.3	230.07-244.53 -
Butler	1,682	284.3	270.71-297.89 +
Cambria	1,931	269.2	257.19-281.21
Cameron	66	257.0	195.00-319.00
Carbon	809	325.8	303.35-348.25 +
Centre	788	246.7	229.47-263.93 -
Chester	2,793	233.1	224.46-241.74 -
Clarion	496	336.4	306.79-366.01 +
Clearfield	909	278.0	259.93-296.07
Clinton	388	270.8	243.85-297.75
Columbia	754	314.5	292.05-336.95 +
Crawford	914	276.0	258.11-293.89
Cumberland	1,899	256.4	244.87-267.93 -
Dauphin	2,374	276.0	264.90-287.10
Delaware	5,023	240.7	234.04-247.36 -
Elk	317	229.0	203.79-254.21 -
Erie	2,629	276.0	265.45-286.55
Fayette	1,856	299.5	285.87-313.13 +
Forest	81	353.9	276.83-430.97 +
Franklin	1,050	222.1	208.67-235.53 -
Fulton	105	209.6	169.51-249.69 -
Greene	471	308.2	280.37-336.03 +
Huntingdon	437	280.2	253.93-306.47
Indiana	894	290.1	271.08-309.12 +
Jefferson	581	305.1	280.29-329.91 +
Juniata	227	290.7	252.88-328.52
Lackawanna	3,258	329.0	317.70-340.30 +
Lancaster	3,908	252.7	244.78-260.62 -
Lawrence	1,248	289.0	272.97-305.03 +
Lebanon	1,207	254.3	239.95-268.65 -
Lehigh	2,989	247.8	238.92-256.68 -
Luzerne	5,105	334.3	325.13-343.47 +
Lycoming	1,255	280.9	265.36-296.44
McKean	534	288.4	263.94-312.86
Mercer	1,428	278.9	264.43-293.37
Mifflin	531	291.6	266.80-316.40
Monroe	932	259.2	242.56-275.84
Montgomery	5,881	209.2	203.85-214.55 -
Montour	224	295.5	256.80-334.20
Northampton	2,374	247.3	237.35-257.25 -
Northumberland	1,251	294.2	277.90-310.50 +
Perry	368	298.5	268.00-329.00
Philadelphia	15,045	295.9	291.17-300.63 +
Pike	255	179.7	157.64-201.76 -
Potter	158	228.0	192.45-263.55 -
Schuylkill	2,195	316.0	302.78-329.22 +
Snyder	309	251.9	223.81-279.99
Somerset	1,000	296.6	278.22-314.98 +
Sullivan	85	251.4	197.95-304.85
Susquehanna	474	296.4	269.72-323.08 +
Tioga	414	265.8	240.20-291.40
Union	367	273.7	245.70-301.70
Venango	623	283.3	261.05-305.55
Warren	512	292.6	267.25-317.95
Washington	2,272	259.4	248.73-270.07
Wayne	584	307.4	282.47-332.33 +
Westmoreland	4,422	278.5	270.29-286.71 +
Wyoming	260	279.3	245.35-313.25
York	3,001	247.5	238.64-256.36 -
Pennsylvania	123,148	269.5	267.99-271.01 +
United States (2000)	709,894	257.5	256.90-258.10

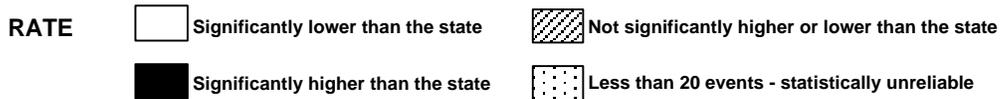
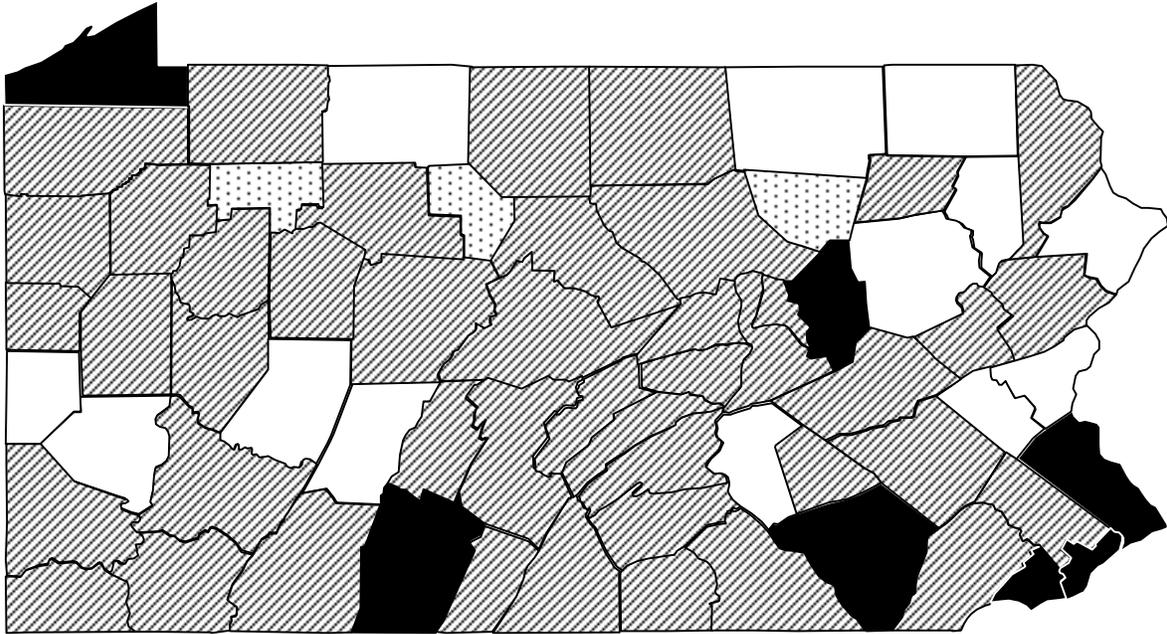
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Average Annual Age-Adjusted Death Rates for Selected Causes, 1998-2000

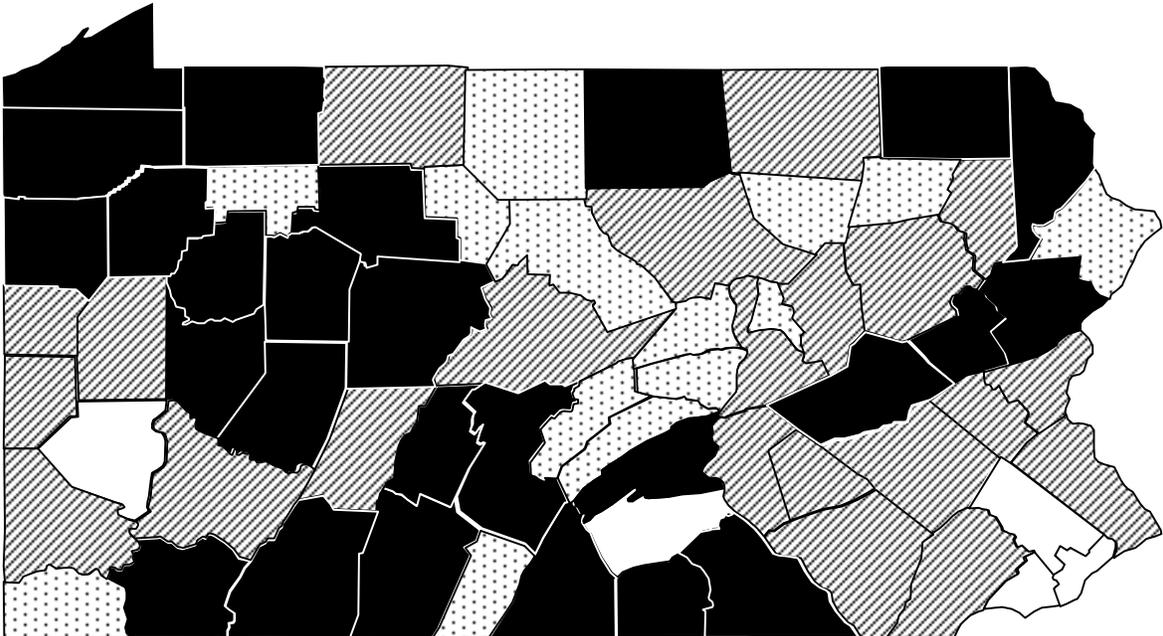
Stroke				Motor Vehicle Accidents			
	No.	Rate	CI (95%)		No.	Rate	CI (95%)
Adams	181	61.1	52.20-70.00	Adams	58	21.1	15.67-26.53 +
Allegheny	2,898	52.3	50.40-54.20 -	Allegheny	267	6.6	5.81-7.39 -
Armstrong	167	53.4	45.30-61.50	Armstrong	42	18.7	13.04-24.36 +
Beaver	337	43.3	38.68-47.92 -	Beaver	66	11.7	8.88-14.52
Bedford	156	81.1	68.37-93.83 +	Bedford	36	23.9	16.09-31.71 +
Berks	763	55.8	51.84-59.76	Berks	150	13.5	11.34-15.66
Blair	288	53.4	47.23-59.57	Blair	71	17.6	13.51-21.69 +
Bradford	107	46.0	37.28-54.72 -	Bradford	24	13.4	8.04-18.76
Bucks	1,055	61.0	57.32-64.68 +	Bucks	191	11.0	9.44-12.56
Butler	343	57.1	51.06-63.14	Butler	62	11.8	8.86-14.74
Cambria	353	48.3	43.26-53.34 -	Cambria	68	14.1	10.75-17.45
Cameron	13	46.0		Cameron	3	21.2	
Carbon	120	47.3	38.84-55.76	Carbon	33	19.4	12.78-26.02 +
Centre	184	58.4	49.96-66.84	Centre	40	11.0	7.59-14.41
Chester	633	53.3	49.15-57.45	Chester	164	12.9	10.93-14.87
Clarion	87	58.0	45.81-70.19	Clarion	30	24.3	15.60-33.00 +
Clearfield	166	49.7	42.14-57.26	Clearfield	51	21.0	15.24-26.76 +
Clinton	78	53.6	41.70-65.50	Clinton	16	14.2	
Columbia	173	70.6	60.08-81.12 +	Columbia	35	17.6	11.77-23.43
Crawford	212	63.2	54.69-71.71	Crawford	63	23.3	17.55-29.05 +
Cumberland	406	54.6	49.29-59.91	Cumberland	64	9.8	7.40-12.20 -
Dauphin	424	48.8	44.15-53.45 -	Dauphin	96	13.1	10.48-15.72
Delaware	1,315	62.0	58.65-65.35 +	Delaware	144	8.4	7.03-9.77 -
Elk	89	63.8	50.54-77.06	Elk	34	33.8	22.44-45.16 +
Erie	604	62.2	57.24-67.16 +	Erie	133	15.4	12.78-18.02 +
Fayette	384	58.4	52.56-64.24	Fayette	82	18.7	14.65-22.75 +
Forest	15	70.0		Forest	4	27.0	
Franklin	288	59.9	52.98-66.82	Franklin	82	21.3	16.69-25.91 +
Fulton	24	50.5	30.30-70.70	Fulton	17	40.4	
Greene	77	48.0	37.28-58.72	Greene	18	14.0	
Huntingdon	85	54.3	42.76-65.84	Huntingdon	32	22.3	14.57-30.03 +
Indiana	149	47.2	39.62-54.78 -	Indiana	54	18.9	13.86-23.94 +
Jefferson	123	63.6	52.36-74.84	Jefferson	30	21.0	13.49-28.51 +
Juniata	51	65.4	47.45-83.35	Juniata	17	25.0	
Lackawanna	497	48.9	44.60-53.20 -	Lackawanna	69	10.7	8.18-13.22
Lancaster	944	60.2	56.36-64.04 +	Lancaster	181	13.0	11.11-14.89
Lawrence	218	49.7	43.10-56.30	Lawrence	44	14.6	10.29-18.91
Lebanon	265	54.1	47.59-60.61	Lebanon	51	14.0	10.16-17.84
Lehigh	582	47.6	43.73-51.47 -	Lehigh	116	12.8	10.47-15.13
Luzerne	701	45.6	42.22-48.98 -	Luzerne	104	10.9	8.81-12.99
Lycoming	266	58.3	51.29-65.31	Lycoming	48	13.0	9.32-16.68
McKean	80	42.0	32.80-51.20 -	McKean	22	16.5	9.61-23.39
Mercer	286	54.2	47.92-60.48	Mercer	72	18.9	14.53-23.27 +
Mifflin	116	61.4	50.23-72.57	Mifflin	11	8.2	
Monroe	170	48.5	41.21-55.79	Monroe	66	17.0	12.90-21.10 +
Montgomery	1,617	56.9	54.13-59.67	Montgomery	217	9.7	8.41-10.99 -
Montour	49	62.0	44.64-79.36	Montour	14	27.5	
Northampton	418	43.2	39.06-47.34 -	Northampton	97	11.8	9.45-14.15
Northumberland	244	54.8	47.92-61.68	Northumberland	48	17.1	12.26-21.94
Perry	66	54.1	41.05-67.15	Perry	27	21.1	13.14-29.06 +
Philadelphia	3,345	64.7	62.51-66.89 +	Philadelphia	391	8.7	7.84-9.56 -
Pike	53	37.6	27.48-47.72 -	Pike	15	12.1	
Potter	33	48.8	32.15-65.45	Potter	12	22.9	
Schuylkill	407	57.1	51.55-62.65	Schuylkill	105	22.3	18.03-26.57 +
Snyder	74	60.6	46.79-74.41	Snyder	11	9.5	
Somerset	195	56.9	48.91-64.89	Somerset	58	24.6	18.27-30.93 +
Sullivan	13	40.5		Sullivan	4	23.2	
Susquehanna	72	44.6	34.30-54.90 -	Susquehanna	37	30.2	20.47-39.93 +
Tioga	104	66.0	53.32-78.68	Tioga	26	21.4	13.17-29.63 +
Union	78	58.0	45.13-70.87	Union	12	9.0	
Venango	144	63.5	53.13-73.87	Venango	35	21.1	14.11-28.09 +
Warren	98	54.8	43.95-65.65	Warren	28	20.8	13.10-28.50 +
Washington	459	51.8	47.06-56.54	Washington	69	11.3	8.63-13.97
Wayne	119	61.8	50.70-72.90	Wayne	34	25.0	16.60-33.40 +
Westmoreland	866	54.0	50.40-57.60	Westmoreland	138	12.1	10.08-14.12
Wyoming	51	54.8	39.76-69.84	Wyoming	18	20.5	
York	662	54.4	50.26-58.54	York	168	15.3	12.99-17.61 +
Pennsylvania	25,640	55.2	54.52-55.88 -	Pennsylvania	4,625	12.4	12.04-12.76 -
United States (2000)	166,028	60.2	59.91-60.49	United States (2000)	41,804	15.2	15.05-15.35

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, 1998-2000



Average Annual Age-Adjusted Death Rates - Motor Vehicle Accidents Pennsylvania Residents, 1998-2000



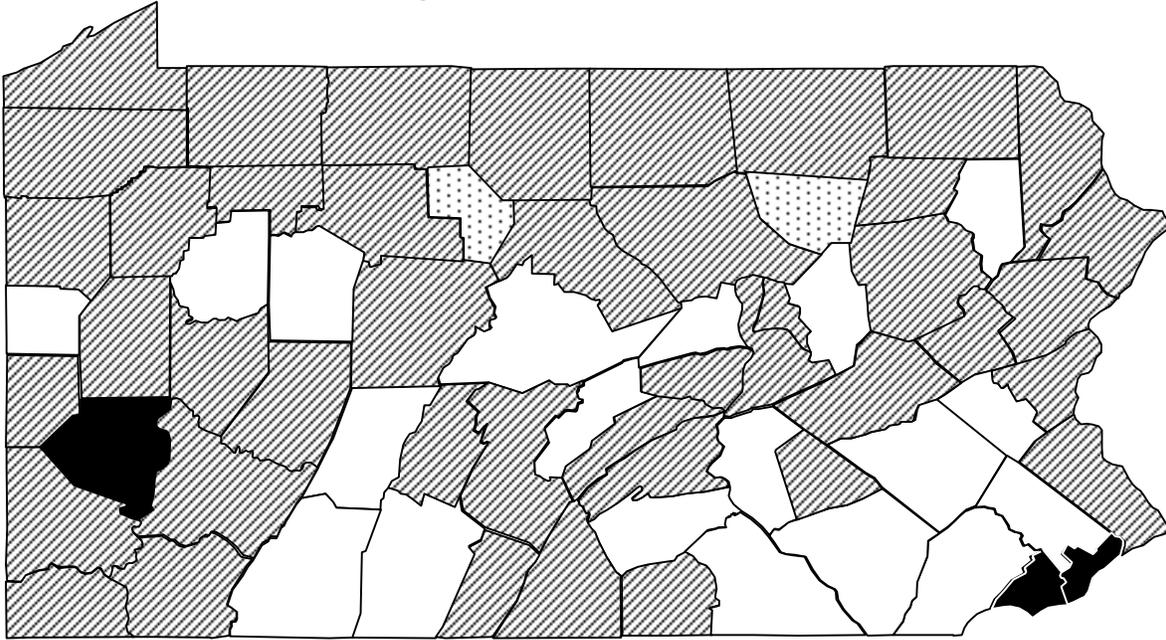
Note: Significance was determined by calculating and comparing county confidence intervals to the state rate. The calculations were not performed for counties that had less than 20 events. Rates for counties with less than 20 events are considered unreliable. See Technical Notes.

Average Annual Age-Adjusted Death Rates for Selected Causes, 1998-2000

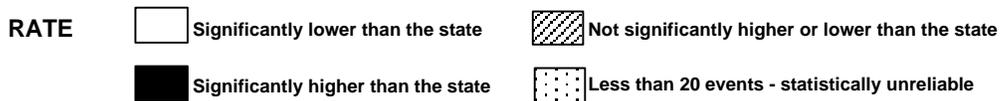
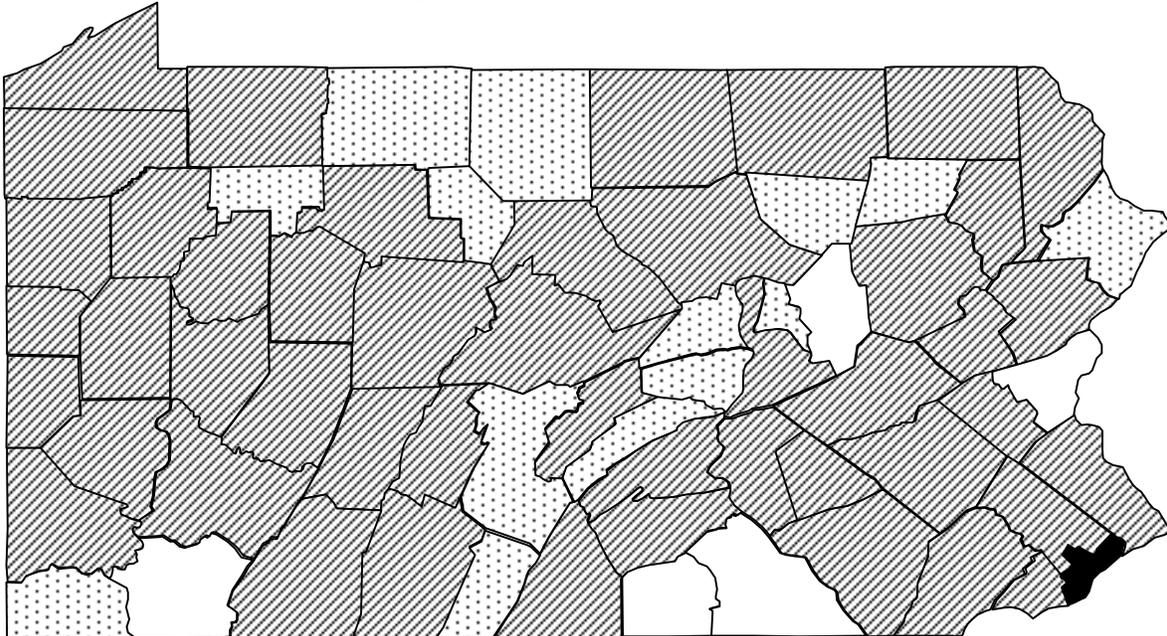
Lung Cancer				Female Breast Cancer			
No.	Rate	CI (95%)		No.	Rate	CI (95%)	
Adams	155	53.7	45.25-62.15	Adams	30	19.3	12.39-26.21 -
Allegheny	3,096	61.1	58.95-63.25 +	Allegheny	809	28.7	26.72-30.68
Armstrong	146	50.9	42.64-59.16	Armstrong	36	22.5	15.15-29.85
Beaver	410	55.5	50.13-60.87	Beaver	117	28.1	23.01-33.19
Bedford	82	42.6	33.38-51.82 -	Bedford	33	32.3	21.28-43.32
Berks	635	50.0	46.11-53.89 -	Berks	201	28.3	24.39-32.21
Blair	280	56.0	49.44-62.56	Blair	90	31.5	24.99-38.01
Bradford	111	50.3	40.94-59.66	Bradford	32	26.1	17.06-35.14
Bucks	1,024	57.4	53.88-60.92	Bucks	276	27.1	23.90-30.30
Butler	287	51.8	45.81-57.79	Butler	91	28.9	22.96-34.84
Cambria	330	50.2	44.78-55.62 -	Cambria	95	26.6	21.25-31.95
Cameron	19	80.5		Cameron	3	18.2	
Carbon	145	60.0	50.23-69.77	Carbon	39	31.6	21.68-41.52
Centre	130	39.8	32.96-46.64 -	Centre	44	25.1	17.68-32.52
Chester	626	50.8	46.82-54.78 -	Chester	182	25.9	22.14-29.66
Clarion	59	42.7	31.80-53.60 -	Clarion	25	33.7	20.49-46.91
Clearfield	183	59.6	50.96-68.24	Clearfield	44	24.6	17.33-31.87
Clinton	75	54.9	42.47-67.33	Clinton	21	27.8	15.91-39.69
Columbia	105	45.5	36.80-54.20 -	Columbia	27	19.9	12.39-27.41 -
Crawford	198	62.2	53.54-70.86	Crawford	48	27.3	19.58-35.02
Cumberland	369	50.3	45.17-55.43 -	Cumberland	106	25.5	20.65-30.35
Dauphin	411	49.8	44.99-54.61 -	Dauphin	139	28.1	23.43-32.77
Delaware	1,161	60.3	56.83-63.77 +	Delaware	331	30.1	26.86-33.34
Elk	78	58.4	45.44-71.36	Elk	21	28.5	16.31-40.69
Erie	531	58.5	53.52-63.48	Erie	130	25.6	21.20-30.00
Fayette	356	61.4	55.02-67.78	Fayette	71	21.0	16.12-25.88 -
Forest	20	80.7	45.33-116.07	Forest	6	56.1	
Franklin	246	52.9	46.29-59.51	Franklin	77	30.4	23.61-37.19
Fulton	21	43.1	24.67-61.53	Fulton	6	22.9	
Greene	90	63.9	50.70-77.10	Greene	13	16.3	
Huntingdon	78	50.7	39.45-61.95	Huntingdon	15	17.1	
Indiana	149	50.0	41.97-58.03	Indiana	39	23.2	15.92-30.48
Jefferson	78	44.1	34.31-53.89 -	Jefferson	29	28.4	18.06-38.74
Juniata	35	46.2	30.89-61.51	Juniata	15	36.3	
Lackawanna	443	50.1	45.43-54.77 -	Lackawanna	144	28.3	23.68-32.92
Lancaster	699	46.6	43.15-50.05 -	Lancaster	251	29.4	25.76-33.04
Lawrence	187	46.1	39.49-52.71 -	Lawrence	56	24.4	18.01-30.79
Lebanon	222	50.2	43.60-56.80	Lebanon	70	30.1	23.05-37.15
Lehigh	518	46.4	42.40-50.40 -	Lehigh	184	29.6	25.32-33.88
Luzerne	715	53.8	49.86-57.74	Luzerne	221	28.7	24.92-32.48
Lycoming	210	49.3	42.63-55.97	Lycoming	53	24.5	17.90-31.10
McKean	115	67.9	55.49-80.31	McKean	16	18.3	
Mercer	247	51.5	45.08-57.92	Mercer	82	31.2	24.45-37.95
Mifflin	74	43.1	33.28-52.92 -	Mifflin	28	28.6	18.01-39.19
Monroe	240	62.1	54.24-69.96	Monroe	71	34.6	26.55-42.65
Montgomery	1,282	48.1	45.47-50.73 -	Montgomery	435	29.1	26.37-31.83
Montour	33	52.1	34.32-69.88	Montour	13	28.0	
Northampton	488	53.2	48.48-57.92	Northampton	111	21.4	17.42-25.38 -
Northumberland	195	50.1	43.07-57.13	Northumberland	70	32.1	24.58-39.62
Perry	61	46.8	35.06-58.54	Perry	21	29.8	17.05-42.55
Philadelphia	3,518	74.7	72.23-77.17 +	Philadelphia	981	35.2	33.00-37.40 +
Pike	69	46.4	35.45-57.35	Pike	14	19.1	
Potter	32	48.7	31.83-65.57	Potter	11	30.3	
Schuylkill	384	61.7	55.53-67.87	Schuylkill	97	27.0	21.63-32.37
Snyder	57	46.6	34.50-58.70	Snyder	19	30.5	
Somerset	130	40.5	33.54-47.46 -	Somerset	46	26.2	18.63-33.77
Sullivan	9	32.3		Sullivan	5	24.9	
Susquehanna	76	49.9	38.68-61.12	Susquehanna	20	24.0	13.48-34.52
Tioga	70	46.3	35.45-57.15	Tioga	24	31.6	18.96-44.24
Union	47	37.6	26.85-48.35 -	Union	15	19.6	
Venango	137	63.6	52.95-74.25	Venango	31	26.2	16.98-35.42
Warren	80	47.9	37.40-58.40	Warren	20	20.9	11.74-30.06
Washington	489	59.3	54.04-64.56	Washington	134	29.4	24.42-34.38
Wayne	90	49.6	39.35-59.85	Wayne	36	37.7	25.38-50.02
Westmoreland	796	52.6	48.95-56.25	Westmoreland	203	26.0	22.42-29.58
Wyoming	49	53.7	38.66-68.74	Wyoming	10	20.0	
York	616	51.2	47.16-55.24 -	York	157	23.2	19.57-26.83 -
Pennsylvania	24,097	55.8	55.10-56.50	Pennsylvania	6,890	28.4	27.73-29.07 +
United States (2000)	154,981	56.3	56.02-56.58	United States (1999)	41,144	27.0	26.74-27.26

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, 1998-2000



Average Annual Age-Adjusted Death Rates - Female Breast Cancer Pennsylvania Residents, 1998-2000



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.

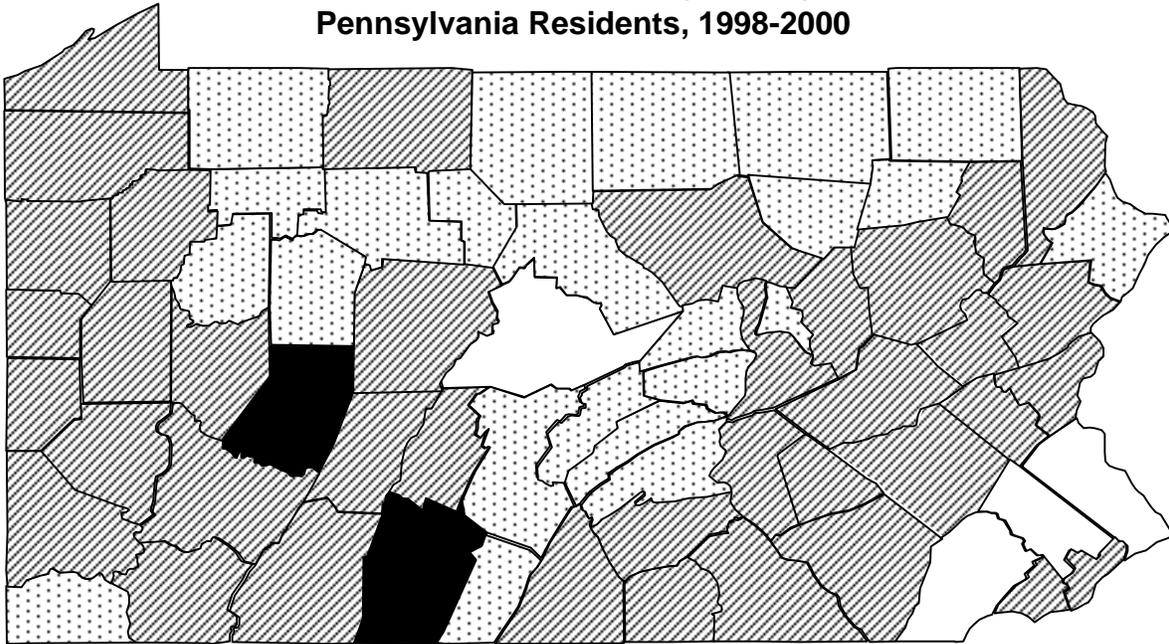
Average Annual Age-Adjusted Death Rates for Selected Causes, 1998-2000

Intentional Self-harm

(Suicide)	No.	Rate	CI (95%)	Assault (Homicide)	No.	Rate	CI (95%)
Adams	31	11.7	7.58-15.82	Adams	3	1.1	
Allegheny	421	10.7	9.68-11.72	Allegheny	228	6.3	5.48-7.12 +
Armstrong	31	14.0	9.07-18.93	Armstrong	4	2.0	
Beaver	58	10.2	7.57-12.83	Beaver	17	3.4	
Bedford	30	19.7	12.65-26.75 +	Bedford	1	0.5	
Berks	139	12.4	10.34-14.46	Berks	72	6.8	5.23-8.37
Blair	54	14.2	10.41-17.99	Blair	9	2.4	
Bradford	18	9.5		Bradford	5	2.6	
Bucks	147	8.2	6.87-9.53 -	Bucks	25	1.5	0.91-2.09 -
Butler	53	10.1	7.38-12.82	Butler	13	2.5	
Cambria	60	12.8	9.56-16.04	Cambria	8	1.7	
Cameron	3	18.9		Cameron	1	8.3	
Carbon	26	15.4	9.48-21.32	Carbon	3	1.7	
Centre	23	6.7	3.96-9.44 -	Centre	8	2.3	
Chester	105	8.2	6.63-9.77 -	Chester	18	1.4	
Clarion	12	9.6		Clarion	1	0.5	
Clearfield	24	9.2	5.52-12.88	Clearfield	10	4.2	
Clinton	19	17.7		Clinton	1	0.8	
Columbia	22	11.0	6.40-15.60	Columbia	7	4.1	
Crawford	30	11.2	7.19-15.21	Crawford	6	2.5	
Cumberland	71	10.8	8.29-13.31	Cumberland	10	1.6	
Dauphin	68	8.9	6.78-11.02	Dauphin	29	4.1	2.61-5.59
Delaware	182	11.0	9.40-12.60	Delaware	87	5.4	4.27-6.53
Elk	16	16.0		Elk	4	3.9	
Erie	98	11.9	9.54-14.26	Erie	23	2.7	1.60-3.80 -
Fayette	57	12.8	9.48-16.12	Fayette	14	3.4	
Forest	1	4.0		Forest	1	7.4	
Franklin	39	9.9	6.79-13.01	Franklin	8	2.2	
Fulton	8	17.8		Fulton	0	-	
Greene	18	13.9		Greene	3	2.3	
Huntingdon	18	13.4		Huntingdon	5	3.5	
Indiana	44	16.4	11.55-21.25 +	Indiana	2	0.8	
Jefferson	17	11.3		Jefferson	2	1.5	
Juniata	3	4.2		Juniata	2	3.1	
Lackawanna	80	12.8	10.00-15.60	Lackawanna	16	2.7	
Lancaster	141	10.3	8.60-12.00	Lancaster	39	2.8	1.92-3.68 -
Lawrence	30	11.1	7.13-15.07	Lawrence	8	3.2	
Lebanon	32	8.9	5.82-11.98	Lebanon	8	2.4	
Lehigh	100	10.5	8.44-12.56	Lehigh	33	3.8	2.50-5.10 -
Luzerne	100	10.8	8.68-12.92	Luzerne	19	2.2	
Lycoming	32	8.7	5.69-11.71	Lycoming	6	1.8	
McKean	21	15.4	8.81-21.99	McKean	1	0.8	
Mercer	34	8.9	5.91-11.89	Mercer	9	2.5	
Mifflin	12	8.5		Mifflin	3	2.1	
Monroe	53	13.5	9.87-17.13	Monroe	8	2.1	
Montgomery	211	9.5	8.22-10.78 -	Montgomery	43	2.0	1.40-2.60 -
Montour	6	11.4		Montour	1	1.9	
Northampton	81	10.2	7.98-12.42	Northampton	17	2.2	
Northumberland	37	13.2	8.95-17.45	Northumberland	9	3.4	
Perry	18	13.3		Perry	1	0.7	
Philadelphia	477	10.9	9.92-11.88	Philadelphia	968	21.6	20.24-22.96 +
Pike	18	13.5		Pike	1	0.8	
Potter	11	18.5		Potter	0	-	
Schuylkill	66	14.2	10.77-17.63	Schuylkill	12	2.9	
Snyder	11	9.8		Snyder	0	-	
Somerset	32	13.0	8.50-17.50	Somerset	4	1.9	
Sullivan	3	14.0		Sullivan	0	-	
Susquehanna	16	12.1		Susquehanna	4	3.6	
Tioga	12	9.5		Tioga	0	-	
Union	12	9.6		Union	4	3.3	
Venango	28	15.9	10.01-21.79	Venango	4	2.4	
Warren	15	10.0		Warren	0	-	
Washington	64	10.0	7.55-12.45	Washington	13	2.1	
Wayne	20	14.9	8.37-21.43	Wayne	4	3.3	
Westmoreland	146	12.5	10.47-14.53	Westmoreland	23	2.1	1.24-2.96 -
Wyoming	5	5.6		Wyoming	2	2.4	
York	115	10.1	8.25-11.95	York	27	2.5	1.56-3.44 -
Pennsylvania	3,985	10.8	10.46-11.14 +	Pennsylvania	1,917	5.4	5.16-5.64 -
United States (2000)	28,332	10.3	10.18-10.42	United States (2000)	16,137	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.

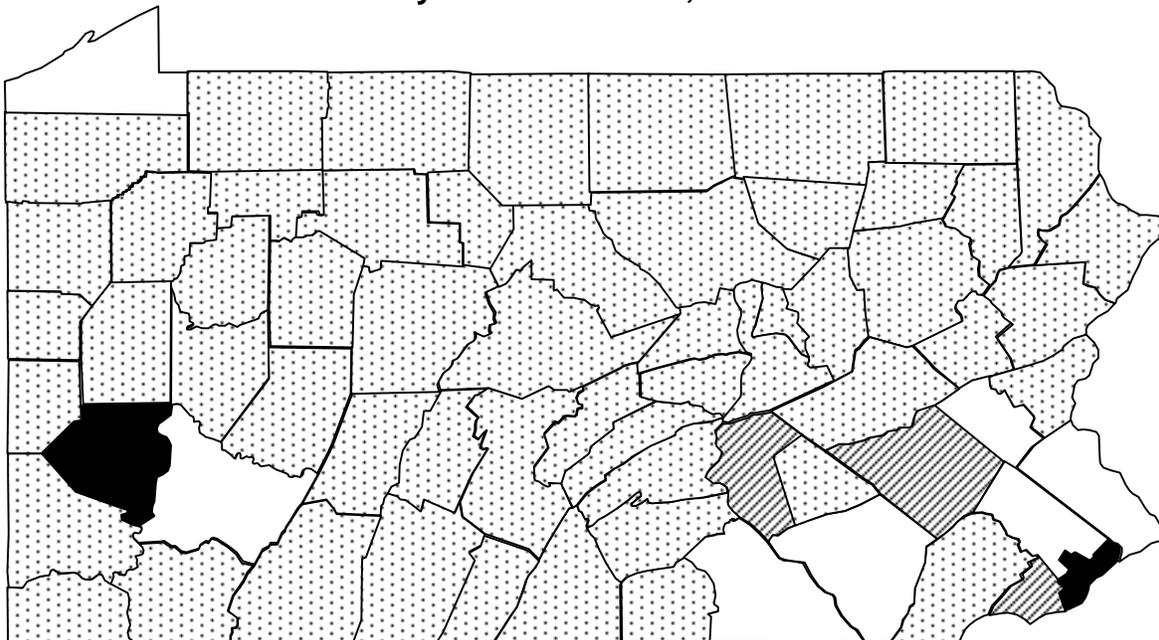
**Average Annual Age-Adjusted Death Rates
Intentional Self-harm (Suicide)
Pennsylvania Residents, 1998-2000**



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, 1998-2000**



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

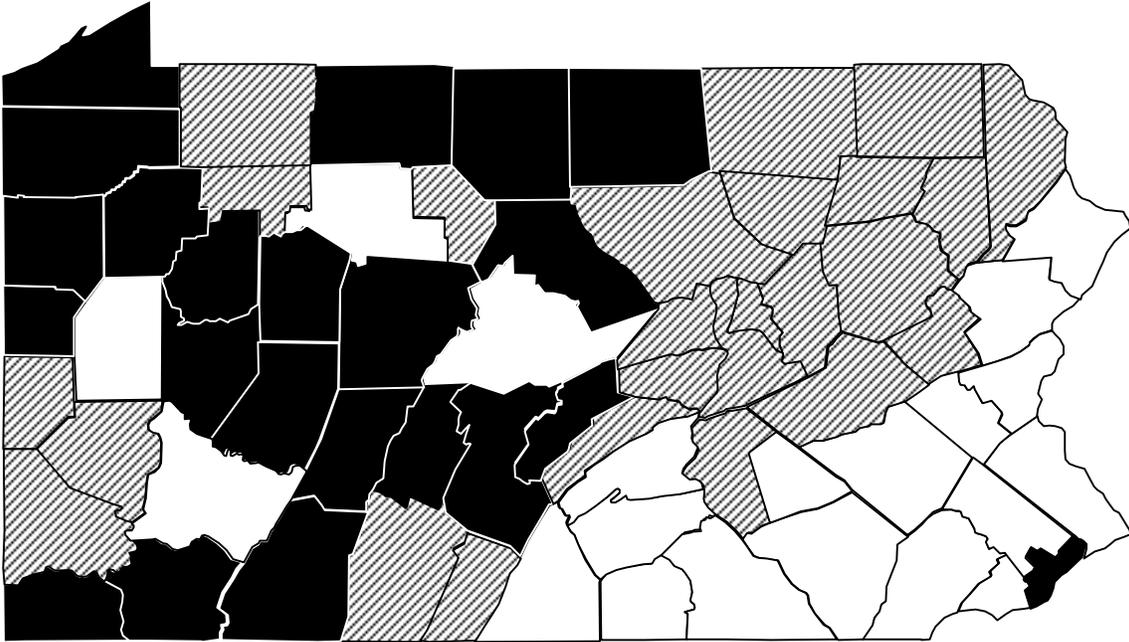
Note: Significance was determined by calculating and comparing county confidence intervals to the state rate. The calculations were not performed for counties that had less than 20 events. Rates for counties with less than 20 events are considered unreliable. See Technical Notes.

Percent of Children by Age Below Poverty Level, 1998

Related Children				All Children <18			
Age 5-17 Below Poverty	No.	Pct.	μ (95%)	Below Poverty	No.	Pct.	μ (95%)
Adams	1,583	9.7	-5.91 -	Adams	2,484	11.1	-6.34 -
Allegheny	31,380	15.9	1.80	Allegheny	49,937	18.3	7.38 +
Armstrong	2,431	17.7	2.19 +	Armstrong	3,484	19.4	3.05 +
Beaver	5,179	16.0	0.88	Beaver	7,395	17.1	0.98
Bedford	1,638	17.1	1.35	Bedford	2,240	17.7	1.06
Berks	8,041	13.0	-4.85 -	Berks	12,683	14.8	-3.91 -
Blair	4,437	18.2	3.55 +	Blair	6,015	18.6	2.96 +
Bradford	2,200	17.4	1.83	Bradford	2,964	17.5	1.02
Bucks	6,908	6.2	-24.94 -	Bucks	11,373	7.5	-27.51 -
Butler	3,629	11.2	-6.14 -	Butler	5,272	12.0	-7.40 -
Cambria	4,942	17.8	3.25 +	Cambria	6,952	19.2	4.03 +
Cameron	193	19.3	1.00	Cameron	247	17.8	0.38
Carbon	1,479	14.5	-0.74	Carbon	2,041	14.9	-1.47
Centre	2,068	11.7	-3.99 -	Centre	2,987	12.0	-5.57 -
Chester	5,052	6.5	-20.15 -	Chester	8,392	7.7	-22.81 -
Clarion	1,419	18.9	2.46 +	Clarion	1,780	18.1	1.25
Clearfield	2,920	19.0	3.62 +	Clearfield	3,872	19.1	2.91 +
Clinton	1,334	20.3	3.23 +	Clinton	1,759	20.3	2.78 +
Columbia	1,557	14.9	-0.42	Columbia	2,244	16.0	-0.46
Crawford	3,196	18.3	3.11 +	Crawford	4,472	19.2	3.23 +
Cumberland	2,462	7.2	-12.31 -	Cumberland	3,926	8.5	-13.50 -
Dauphin	6,652	15.3	-0.17	Dauphin	10,180	16.8	0.58
Delaware	11,622	12.7	-6.63 -	Delaware	17,659	13.8	-7.58 -
Elk	775	11.7	-2.45 -	Elk	1,051	11.9	-3.39 -
Erie	9,295	17.3	3.58 +	Erie	13,315	18.2	3.61 +
Fayette	7,262	26.6	15.03 +	Fayette	9,938	27.9	16.89 +
Forest	178	23.5	1.81	Forest	207	20.9	1.09
Franklin	2,819	12.0	-4.23 -	Franklin	4,013	12.7	-5.30 -
Fulton	475	16.2	0.35	Fulton	579	14.8	-0.83
Greene	2,074	25.1	7.16 +	Greene	2,511	23.3	5.54 +
Huntingdon	1,413	18.2	2.00 +	Huntingdon	1,827	17.5	0.80
Indiana	3,288	20.4	5.16 +	Indiana	4,420	20.9	5.02 +
Jefferson	1,664	18.3	2.25 +	Jefferson	2,170	18.2	1.46
Juniata	538	12.3	-1.66	Juniata	747	12.8	-2.22 -
Lackawanna	5,311	15.5	0.15	Lackawanna	7,890	17.1	1.01
Lancaster	9,700	10.9	-10.90 -	Lancaster	15,024	12.1	-12.17 -
Lawrence	3,485	20.7	5.58 +	Lawrence	4,801	21.4	5.76 +
Lebanon	2,544	11.9	-4.16 -	Lebanon	3,630	12.6	-5.20 -
Lehigh	6,676	13.4	-3.63 -	Lehigh	10,302	14.8	-3.52 -
Luzerne	7,457	14.8	-1.09	Luzerne	11,319	16.6	0.20
Lycoming	3,660	16.9	1.79	Lycoming	5,213	17.7	1.62
McKean	1,728	19.8	3.34 +	McKean	2,238	19.4	2.45 +
Mercer	4,143	19.4	4.75 +	Mercer	5,688	19.9	4.51 +
Mifflin	1,701	19.8	3.31 +	Mifflin	2,272	19.4	2.46 +
Monroe	2,825	11.8	-4.52 -	Monroe	4,169	12.5	-5.73 -
Montgomery	7,566	6.4	-25.13 -	Montgomery	12,003	7.3	-29.28 -
Montour	486	15.3	-0.05	Montour	575	13.1	-1.77
Northampton	4,898	10.9	-7.75 -	Northampton	7,279	11.8	-9.16 -
Northumberland	2,608	16.2	0.82	Northumberland	3,562	16.5	0.00
Perry	1,022	11.5	-2.99 -	Perry	1,367	11.4	-4.38 -
Philadelphia	78,201	30.0	60.54 +	Philadelphia	113,001	31.0	68.72 +
Pike	910	12.1	-2.32 -	Pike	1,294	12.1	-3.57 -
Potter	733	20.7	2.56 +	Potter	938	19.9	1.83
Schuylkill	3,701	14.8	-0.77	Schuylkill	5,240	15.9	-0.86
Snyder	1,064	15.1	-0.20	Snyder	1,359	14.1	-1.85
Somerset	2,831	18.9	3.48 +	Somerset	3,683	18.7	2.42 +
Sullivan	204	20.9	1.40	Sullivan	232	16.3	-0.06
Susquehanna	1,468	17.1	1.28	Susquehanna	1,969	17.1	0.51
Tioga	1,490	18.7	2.39 +	Tioga	1,976	18.6	1.70
Union	909	14.3	-0.71	Union	1,255	14.4	-1.54
Venango	2,216	19.8	3.78 +	Venango	2,881	19.5	2.86 +
Warren	1,317	16.1	0.51	Warren	1,731	15.8	-0.58
Washington	5,771	16.1	1.08	Washington	7,949	16.8	0.51
Wayne	1,520	18.0	1.94	Wayne	1,959	17.3	0.67
Westmoreland	8,510	13.6	-3.66 -	Westmoreland	12,777	15.3	-2.72 -
Wyoming	987	16.8	0.87	Wyoming	1,202	15.3	-0.83 -
York	6,540	9.6	-12.29 -	York	10,027	10.8	-13.63 -
Pennsylvania	326,285	15.4	-23.28 -	Pennsylvania	477,943	16.5	-29.97 -
United States (1998)	8,922,935	17.5		United States (1998)	13,466,544	18.9	

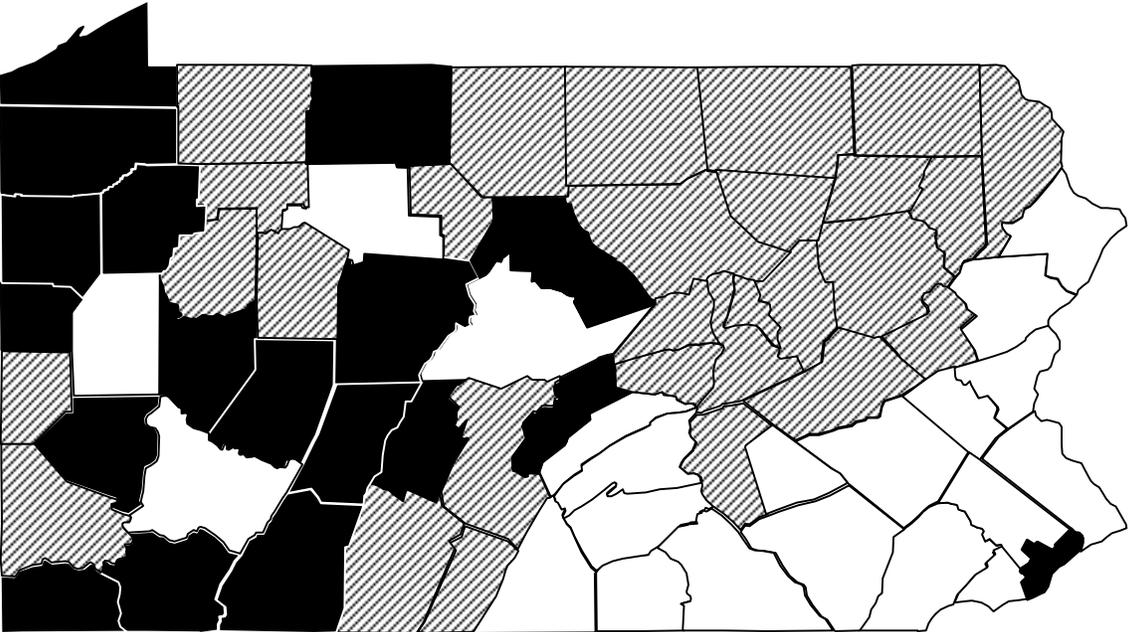
NOTE: A+ or - after the value of μ denotes if the county rate was significantly higher or lower than the state rate. No + or - after the μ value denotes no significant difference. State data were compared to U.S. data. Two separate formulas computed the μ values, depending on the number of events. See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

**Percent of Children 5-17 Related to Persons with Income Below Poverty Level
Pennsylvania Residents, 1998**



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, 1998**



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 μ 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.

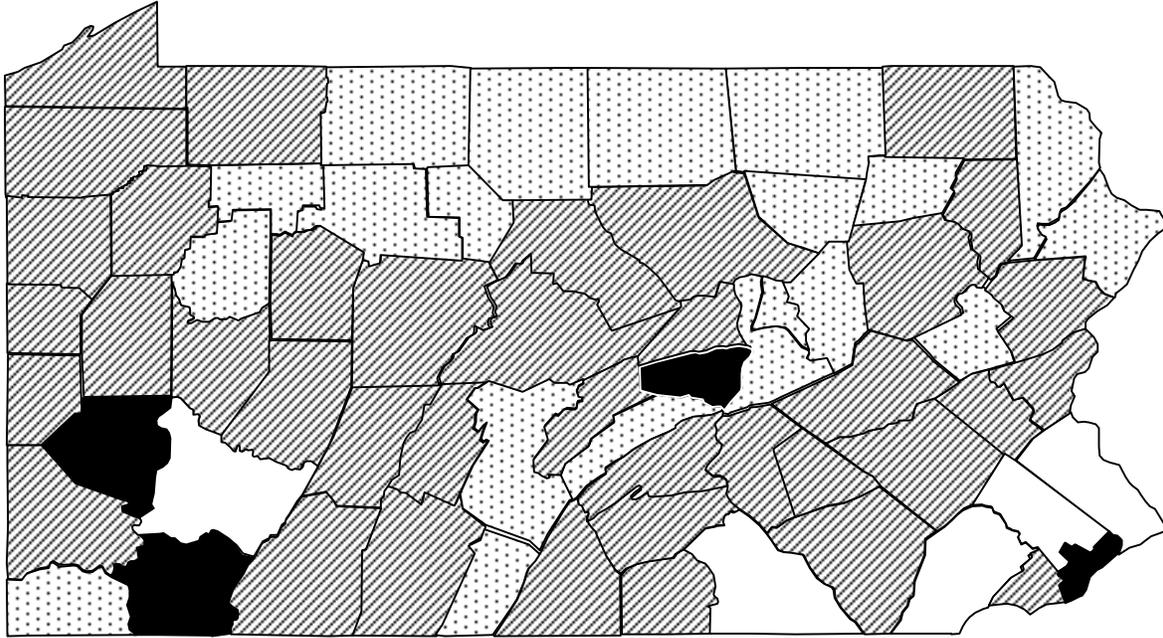
Infant Death Rates, 1998-00, and Percent Low Birth Weight, 2000

1998-2000

Infant Death Rates				Percent Low Birth Weight			
	No.	Rate	μ (95%)		No.	Pct.	μ (95%)
Adams	14	4.6	-1.64	Adams	68	6.5	-1.40
Allegheny	339	7.9	1.98 +	Allegheny	1,164	8.2	2.23 +
Armstrong	20	8.6	0.88	Armstrong	62	8.4	0.69
Beaver	30	5.3	-1.57	Beaver	141	7.5	-0.33
Bedford	14	7.9	0.39	Bedford	38	6.4	-1.14
Berks	93	6.8	-0.44	Berks	322	6.8	-2.32 -
Blair	24	5.4	-1.33	Blair	100	6.7	-1.45
Bradford	8	3.7		Bradford	52	7.3	-0.38
Bucks	107	4.9	-3.87 -	Bucks	486	6.7	-3.19 -
Butler	41	6.5	-0.60	Butler	113	5.5	-3.74 -
Cambria	33	7.1	0.03	Cambria	117	7.5	-0.30
Cameron	1	5.6		Cameron	4	5.8	
Carbon	6	3.5		Carbon	35	6.2	-1.28
Centre	17	4.5	-1.87	Centre	75	5.9	-2.31 -
Chester	91	5.3	-2.74 -	Chester	331	5.7	-5.72 -
Clarion	4	3.1		Clarion	23	5.5	-1.62
Clearfield	17	6.7	-0.23	Clearfield	68	8.3	0.62
Clinton	11	8.2	0.49	Clinton	26	5.8	-1.45
Columbia	6	3.3		Columbia	41	6.7	-0.89
Crawford	26	7.9	0.54	Crawford	71	6.4	-1.56
Cumberland	39	5.8	-1.24	Cumberland	189	8.5	1.42
Dauphin	61	6.5	-0.72	Dauphin	311	9.9	4.63 +
Delaware	126	6.1	-1.72	Delaware	547	7.9	0.62
Elk	7	6.0		Elk	17	4.3	-2.44 -
Erie	81	7.7	0.72	Erie	220	6.3	-3.10 -
Fayette	46	9.7	2.12 +	Fayette	140	9.1	2.06 +
Forest	3	28.0		Forest	1	2.5	
Franklin	38	7.5	0.37	Franklin	114	6.8	-1.38
Fulton	1	2.0		Fulton	18	11.8	1.82
Greene	8	6.6		Greene	40	10.8	2.15 +
Huntingdon	6	4.0		Huntingdon	35	6.9	-0.65
Indiana	25	9.6	1.49	Indiana	63	7.4	-0.32
Jefferson	13	8.7	0.75	Jefferson	38	7.3	-0.33
Juniata	9	10.1		Juniata	16	5.1	-1.66
Lackawanna	36	5.6	-1.45	Lackawanna	139	6.5	-2.08 -
Lancaster	138	6.8	-0.51	Lancaster	363	5.3	-7.45 -
Lawrence	29	9.5	1.56	Lawrence	81	8.0	0.34
Lebanon	26	6.0	-0.84	Lebanon	97	6.7	-1.37
Lehigh	76	6.8	-0.43	Lehigh	334	8.9	2.76 +
Luzerne	51	5.6	-1.74	Luzerne	199	6.6	-2.27 -
Lycoming	27	6.8	-0.24	Lycoming	78	5.8	-2.51 -
McKean	8	5.4		McKean	43	9.1	1.10
Mercer	21	5.2	-1.42	Mercer	81	6.2	-1.95
Mifflin	14	7.8	0.36	Mifflin	42	7.0	-0.62
Monroe	22	5.2	-1.44	Monroe	95	6.8	-1.21
Montgomery	158	5.6	-3.00 -	Montgomery	622	6.5	-4.40 -
Montour	9	14.6		Montour	20	9.4	0.89
Northampton	54	6.4	-0.81	Northampton	225	7.9	0.40
Northumberland	9	3.2		Northumberland	56	6.1	-1.75
Perry	14	8.8	0.81	Perry	46	9.0	1.06
Philadelphia	747	11.4	13.12 +	Philadelphia	2,371	10.9	17.70 +
Pike	1	0.9		Pike	15	4.6	-2.02 -
Potter	4	6.0		Potter	16	7.2	-0.27
Schuylkill	34	7.9	0.64	Schuylkill	95	6.6	-1.50
Snyder	15	11.8	1.97 +	Snyder	30	6.8	-0.68
Somerset	23	9.0	1.16	Somerset	55	6.3	-1.49
Sullivan	1	6.2		Sullivan	3	6.1	
Susquehanna	10	7.1	0.01	Susquehanna	48	9.6	1.53
Tioga	4	3.1		Tioga	33	7.0	-0.55
Union	12	10.6	1.38	Union	21	5.3	-1.72
Venango	12	6.2	-0.44	Venango	49	7.8	0.09
Warren	10	6.9	-0.09	Warren	37	7.5	-0.16
Washington	43	6.7	-0.38	Washington	155	7.3	-0.69
Wayne	5	3.3		Wayne	36	6.7	-0.84
Westmoreland	57	5.2	-2.31 -	Westmoreland	259	7.2	-1.12
Wyoming	6	6.3		Wyoming	14	4.5	-2.03 -
York	63	4.7	-3.32 -	York	397	8.8	2.77 +
Pennsylvania	3,104	7.1	1.60	Pennsylvania	11,241	7.7	1.44
United States (2000)	27,987	6.9		United States (2000)	307,030	7.6	

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

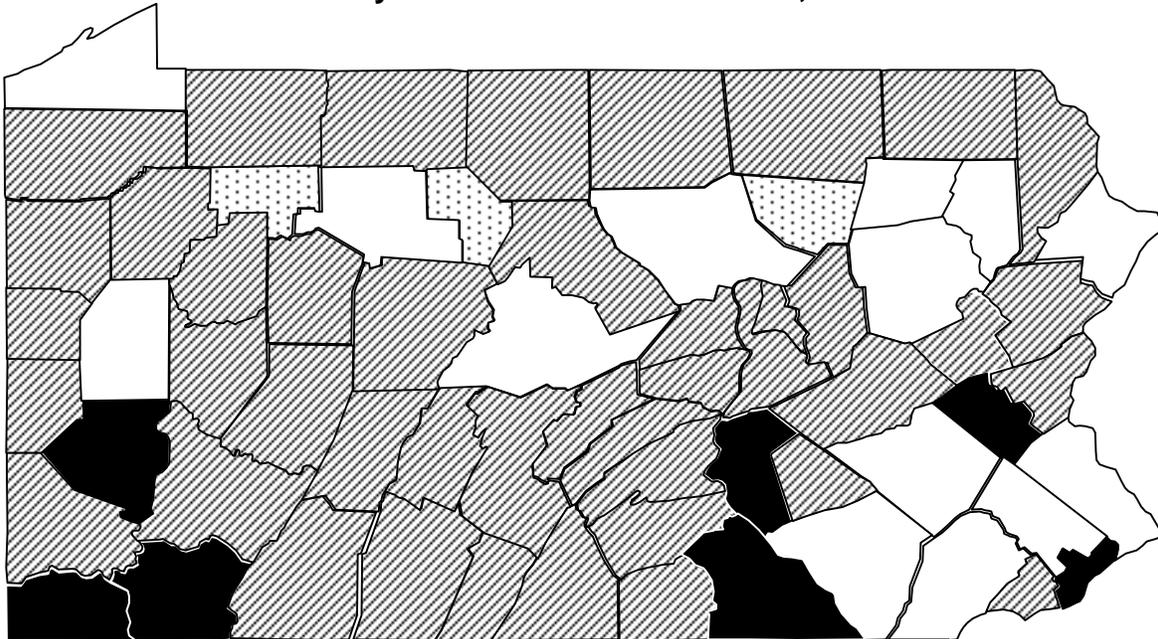
Infant Death Rates Pennsylvania Residents, 1998-2000



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, 2000



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

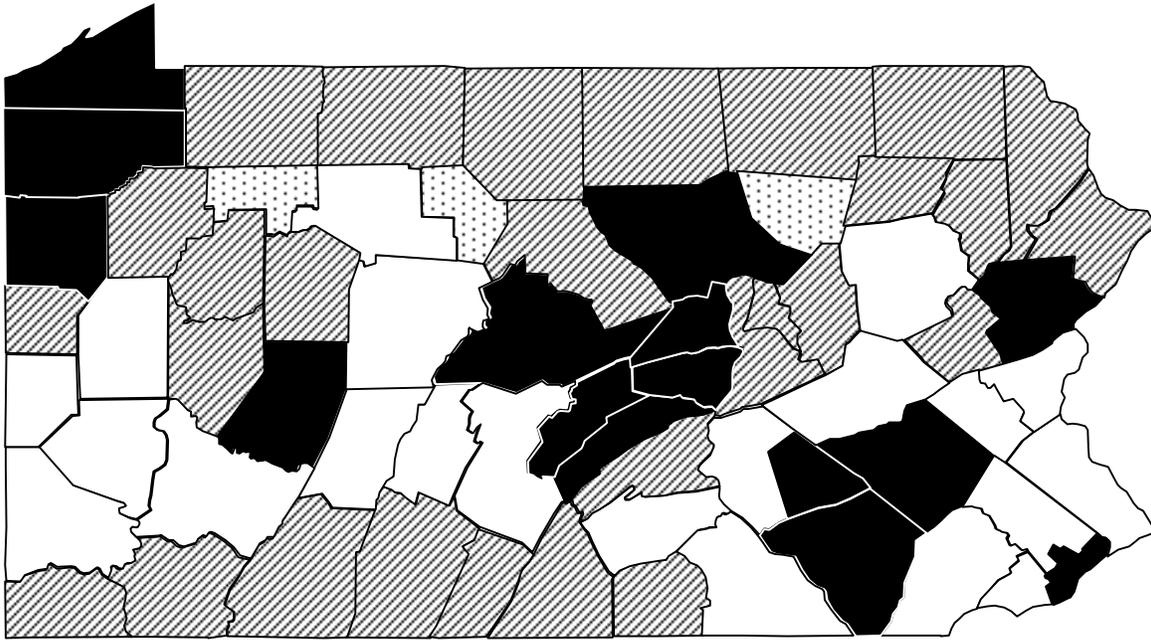
Note: Significance is determined by calculating county μ values. The calculations were not performed for counties that had less than 10 events. Rates for counties with less than 10 events are considered unreliable. See Technical Notes.

Percent No Prenatal Care in First Trimester and Teen Births, 2000

No Prenatal Care				Births to			
First Trimester	No.	Pct.	μ (95%)	Mothers <18	No.	Pct.	μ (95%)
Adams	134	13.0	-1.45	Adams	34	3.2	-0.52
Allegheny	1,153	8.3	-21.03 -	Allegheny	442	3.1	-2.60 -
Armstrong	91	12.6	-1.41	Armstrong	21	2.8	-1.02
Beaver	214	11.8	-3.38 -	Beaver	60	3.2	-0.69
Bedford	87	14.8	0.13	Bedford	17	2.9	-0.78
Berks	1,083	24.6	18.79 +	Berks	200	4.2	2.63 +
Blair	122	8.2	-6.99 -	Blair	51	3.4	-0.21
Bradford	103	14.9	0.22	Bradford	27	3.8	0.43
Bucks	585	8.7	-13.70 -	Bucks	94	1.3	-10.00 -
Butler	173	8.6	-7.62 -	Butler	38	1.8	-4.18 -
Cambria	179	11.7	-3.21 -	Cambria	49	3.1	-0.85
Cameron	2	3.4		Cameron	2	2.9	
Carbon	80	15.2	0.36	Carbon	25	4.4	1.15
Centre	207	17.2	2.55 +	Centre	21	1.6	-3.68 -
Chester	670	12.2	-5.04 -	Chester	104	1.8	-7.03 -
Clarion	55	13.2	-0.75	Clarion	8	1.9	
Clearfield	88	10.9	-2.75 -	Clearfield	13	1.6	-2.89 -
Clinton	75	17.2	1.42	Clinton	12	2.7	-0.90
Columbia	87	14.4	-0.13	Columbia	21	3.4	-0.13
Crawford	215	19.9	4.93 +	Crawford	35	3.2	-0.53
Cumberland	223	10.3	-5.67 -	Cumberland	43	1.9	-4.07 -
Dauphin	362	12.1	-3.87 -	Dauphin	124	4.0	1.51
Delaware	856	12.9	-3.92 -	Delaware	193	2.8	-3.16 -
Elk	22	5.6	-4.67 -	Elk	10	2.5	-1.07
Erie	631	18.6	6.60 +	Erie	154	4.4	2.90 +
Fayette	199	13.1	-1.66	Fayette	79	5.1	3.37 +
Forest	6	15.0		Forest	3	7.5	
Franklin	233	14.0	-0.69	Franklin	63	3.8	0.65
Fulton	16	10.6	-1.29	Fulton	6	3.9	
Greene	51	14.0	-0.30	Greene	13	3.5	0.00
Huntingdon	46	9.1	-3.24 -	Huntingdon	14	2.7	-0.97
Indiana	147	17.4	2.30 +	Indiana	14	1.6	-3.00 -
Jefferson	76	15.0	0.24	Jefferson	15	2.9	-0.73
Juniata	69	22.4	3.58 +	Juniata	6	1.9	
Lackawanna	314	15.3	0.90	Lackawanna	56	2.6	-2.23 -
Lancaster	1,301	19.8	11.94 +	Lancaster	230	3.3	-0.91
Lawrence	142	14.7	0.09	Lawrence	36	3.6	0.17
Lebanon	297	21.2	7.00 +	Lebanon	46	3.2	-0.61
Lehigh	394	11.7	-4.77 -	Lehigh	148	3.9	1.34
Luzerne	287	9.8	-7.36 -	Luzerne	92	3.1	-1.16
Lycoming	234	18.1	3.56 +	Lycoming	61	4.6	2.14 +
McKean	53	12.4	-1.19	McKean	14	3.0	-0.58
Mercer	216	16.8	2.23 +	Mercer	37	2.8	-1.36
Mifflin	139	23.5	6.13 +	Mifflin	24	4.0	0.65
Monroe	226	16.6	2.09 +	Monroe	33	2.3	-2.43 -
Montgomery	848	9.7	-12.97 -	Montgomery	123	1.3	-11.64 -
Montour	37	17.5	1.10	Montour	6	2.8	
Northampton	290	10.7	-5.75 -	Northampton	84	3.0	-1.41
Northumberland	148	16.4	1.53	Northumberland	46	5.0	2.43 +
Perry	58	11.7	-1.69	Perry	10	2.0	-1.79
Philadelphia	5,090	24.9	41.71 +	Philadelphia	1,531	7.0	28.16 +
Pike	53	14.4	-0.10	Pike	7	1.8	
Potter	22	11.7	-1.04	Potter	6	2.7	
Schuylkill	142	10.0	-4.91 -	Schuylkill	49	3.4	-0.20
Snyder	116	27.2	7.37 +	Snyder	9	2.1	
Somerset	113	13.2	-1.16	Somerset	24	2.8	-1.10
Sullivan	7	14.3		Sullivan	0	-	
Susquehanna	68	14.0	-0.35	Susquehanna	9	1.8	
Tioga	57	12.4	-1.23	Tioga	19	4.0	0.58
Union	88	22.8	4.22 +	Union	5	1.3	
Venango	96	15.8	0.77	Venango	20	3.2	-0.40
Warren	81	17.0	1.37	Warren	16	3.2	-0.36
Washington	214	10.2	-5.71 -	Washington	50	2.4	-2.68 -
Wayne	87	16.6	1.20	Wayne	14	2.6	-1.12
Westmoreland	294	8.3	-10.62 -	Westmoreland	68	1.9	-5.12 -
Wyoming	35	11.6	-1.36	Wyoming	14	4.5	0.94
York	526	12.1	-4.67 -	York	149	3.3	-0.73
Pennsylvania	20,413	14.6	-22.00 -	Pennsylvania	5,047	3.5	-11.49 -
United States (2000)	665,428	16.8		United States (2000)	165,728	4.1	

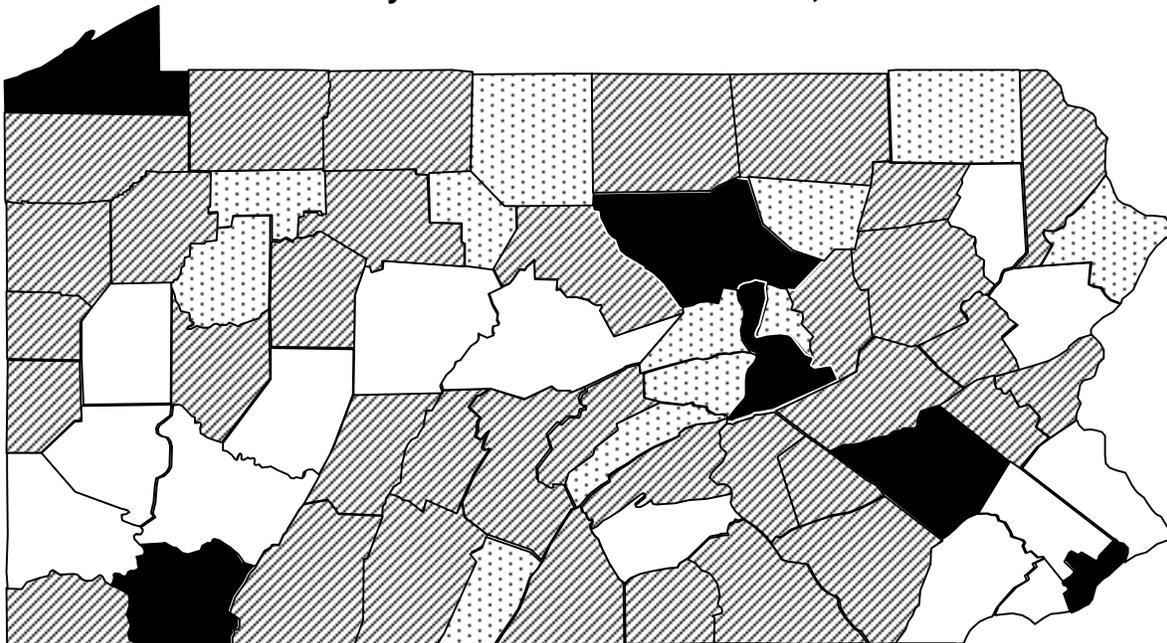
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**Percent with No Prenatal Care in First Trimester
Pennsylvania Resident Live Births, 2000**



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, 2000**



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 μ 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

2000

Infant Deaths	No.	Rate
Adams	2	1.9
Allegheny	120	8.4
Armstrong	8	10.8
Beaver	10	5.3
Bedford	4	6.8
Berks	32	6.8
Blair	6	4.0
Bradford	2	2.8
Bucks	25	3.4
Butler	10	4.8
Cambria	16	10.2
Cameron	0	-
Carbon	3	5.3
Centre	4	3.1
Chester	37	6.4
Clarion	2	4.8
Clearfield	5	6.1
Clinton	3	6.7
Columbia	0	-
Crawford	10	9.1
Cumberland	8	3.6
Dauphin	25	8.0
Delaware	44	6.3
Elk	2	5.1
Erie	23	6.6
Fayette	20	13.0
Forest	0	-
Franklin	12	7.2
Fulton	0	-
Greene	4	10.8
Huntingdon	2	3.9
Indiana	3	3.5
Jefferson	4	7.7
Juniata	3	9.6
Lackawanna	14	6.5
Lancaster	45	6.6
Lawrence	9	8.9
Lebanon	8	5.5
Lehigh	28	7.4
Luzerne	20	6.6
Lycoming	8	6.0
McKean	3	6.3
Mercer	12	9.2
Mifflin	4	6.7
Monroe	6	4.2
Montgomery	55	5.8
Montour	2	9.4
Northampton	13	4.6
Northumberland	5	5.4
Perry	2	3.9
Philadelphia	224	10.3
Pike	0	-
Potter	3	13.5
Schuylkill	11	7.6
Snyder	3	6.8
Somerset	8	9.2
Sullivan	1	20.4
Susquehanna	3	6.0
Tioga	2	4.2
Union	3	7.6
Venango	2	3.2
Warren	6	12.1
Washington	22	10.4
Wayne	0	-
Westmoreland	24	6.7
Wyoming	2	6.5
York	26	5.7
Pennsylvania	1,023	7.0
United States (2000)	27,987	6.9

2000 Infant Deaths:

White	No.	Rate
Allegheny	62	5.6
Berks	28	6.5
Bucks	24	3.6
Chester	32	6.1
Dauphin	12	5.3
Delaware	20	3.9
Erie	13	4.3
Lancaster	38	5.9
Lehigh	24	7.1
Montgomery	39	4.9
Northampton	13	4.9
Philadelphia	53	6.1
Pennsylvania	681	5.7
U.S. (2000)	18,216	5.7

Black	No.	Rate
Allegheny	57	21.0
Bucks	1	3.0
Chester	4	11.9
Dauphin	13	18.6
Delaware	24	16.8
Erie	10	27.9
Montgomery	16	19.9
Philadelphia	160	14.2
Pennsylvania	320	15.8
U.S. (2000)	8,665	14.0

Hispanic	No.	Rate
Berks	8	9.6
Chester	4	11.0
Lancaster	4	6.6
Lehigh	5	7.1
Montgomery	2	7.3
Northampton	3	9.0
Philadelphia	26	10.1
Pennsylvania	63	8.4
U.S. (2000)	4,572	5.6

1998-00 Infant Deaths:

White	No.	Rate
Allegheny	185	5.5
Berks	78	6.2
Bucks	90	4.5
Chester	77	5.0
Dauphin	32	4.7
Delaware	64	4.2
Erie	49	5.3
Lancaster	123	6.5
Lehigh	65	6.5
Montgomery	113	4.8
Northampton	49	6.2
Philadelphia	176	6.6
Pennsylvania	2040	5.7

Black	No.	Rate
Allegheny	146	18.1
Bucks	14	14.3
Chester	13	11.9
Dauphin	28	13.2
Delaware	62	14.7
Erie	32	29.3
Montgomery	44	18.3
Philadelphia	526	15.5
Pennsylvania	970	15.9

Hispanic	No.	Rate
Berks	30	12.9
Chester	9	9.0
Lancaster	14	8.0
Lehigh	14	6.8
Montgomery	4	5.2
Northampton	8	8.3
Philadelphia	67	8.9
Pennsylvania	183	8.5

Asian and Pacific Islander	No.	Rate
Allegheny	3	2.8
Delaware	0	-
Montgomery	1	0.6
Philadelphia	17	4.9
Pennsylvania	42	3.9

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, 1998-2000

Syphilis			AIDS			Tuberculosis		
	No.	Rate		No.	Rate		No.	Rate
Adams	0	-	Adams	5	1.9	Adams	1	0.4
Allegheny	5	0.1	Allegheny	240	6.3	Allegheny	95	2.5
Armstrong	0	-	Armstrong	3	1.4	Armstrong	5	2.3
Beaver	0	-	Beaver	10	1.8	Beaver	7	1.3
Bedford	0	-	Bedford	1	0.7	Bedford	0	-
Berks	1	0.1	Berks	94	8.6	Berks	34	3.1
Blair	0	-	Blair	4	1.0	Blair	7	1.8
Bradford	0	-	Bradford	1	0.5	Bradford	0	-
Bucks	5	0.3	Bucks	82	4.6	Bucks	46	2.6
Butler	0	-	Butler	6	1.2	Butler	6	1.2
Cambria	0	-	Cambria	16	3.5	Cambria	12	2.6
Cameron	0	-	Cameron	0	-	Cameron	0	-
Carbon	0	-	Carbon	5	2.8	Carbon	0	-
Centre	0	-	Centre	13	3.2	Centre	8	2.0
Chester	0	-	Chester	47	3.7	Chester	31	2.4
Clarion	1	0.8	Clarion	0	-	Clarion	1	0.8
Clearfield	0	-	Clearfield	12	4.9	Clearfield	4	1.6
Clinton	0	-	Clinton	1	0.9	Clinton	2	1.8
Columbia	0	-	Columbia	4	2.1	Columbia	4	2.1
Crawford	0	-	Crawford	10	3.7	Crawford	1	0.4
Cumberland	0	-	Cumberland	66	10.4	Cumberland	16	2.5
Dauphin	2	0.3	Dauphin	163	21.9	Dauphin	33	4.4
Delaware	6	0.4	Delaware	200	12.2	Delaware	60	3.7
Elk	0	-	Elk	0	-	Elk	0	-
Erie	1	0.1	Erie	54	6.5	Erie	35	4.2
Fayette	0	-	Fayette	3	0.7	Fayette	10	2.3
Forest	0	-	Forest	1	6.7	Forest	0	-
Franklin	0	-	Franklin	8	2.1	Franklin	13	3.4
Fulton	0	-	Fulton	0	-	Fulton	0	-
Greene	0	-	Greene	3	2.4	Greene	7	5.7
Huntingdon	0	-	Huntingdon	12	8.9	Huntingdon	1	0.7
Indiana	0	-	Indiana	2	0.8	Indiana	1	0.4
Jefferson	0	-	Jefferson	1	0.7	Jefferson	3	2.2
Juniata	0	-	Juniata	1	1.5	Juniata	2	3.0
Lackawanna	2	0.3	Lackawanna	17	2.7	Lackawanna	16	2.5
Lancaster	1	0.1	Lancaster	82	5.9	Lancaster	24	1.7
Lawrence	0	-	Lawrence	6	2.1	Lawrence	6	2.1
Lebanon	0	-	Lebanon	21	5.9	Lebanon	6	1.7
Lehigh	0	-	Lehigh	121	13.3	Lehigh	34	3.7
Luzerne	0	-	Luzerne	24	2.5	Luzerne	31	3.3
Lycoming	0	-	Lycoming	41	11.6	Lycoming	3	0.8
McKean	0	-	McKean	2	1.4	McKean	5	3.6
Mercer	1	0.3	Mercer	9	2.5	Mercer	3	0.8
Mifflin	0	-	Mifflin	2	1.4	Mifflin	3	2.1
Monroe	1	0.3	Monroe	20	5.1	Monroe	12	3.1
Montgomery	7	0.3	Montgomery	99	4.5	Montgomery	53	2.4
Montour	0	-	Montour	4	7.5	Montour	3	5.6
Northampton	0	-	Northampton	45	5.7	Northampton	20	2.5
Northumberland	0	-	Northumberland	12	4.3	Northumberland	5	1.8
Perry	0	-	Perry	0	-	Perry	2	1.5
Philadelphia	226	5.2	Philadelphia	3,055	69.9	Philadelphia	532	12.2
Pike	0	-	Pike	3	2.3	Pike	0	-
Potter	0	-	Potter	0	-	Potter	2	3.8
Schuylkill	0	-	Schuylkill	22	4.9	Schuylkill	5	1.1
Snyder	0	-	Snyder	2	1.8	Snyder	2	1.8
Somerset	0	-	Somerset	16	6.7	Somerset	8	3.3
Sullivan	0	-	Sullivan	0	-	Sullivan	0	-
Susquehanna	0	-	Susquehanna	0	-	Susquehanna	1	0.8
Tioga	0	-	Tioga	2	1.6	Tioga	0	-
Union	0	-	Union	26	21.1	Union	3	2.4
Venango	0	-	Venango	5	2.9	Venango	0	-
Warren	0	-	Warren	2	1.5	Warren	2	1.5
Washington	0	-	Washington	15	2.4	Washington	17	2.8
Wayne	0	-	Wayne	10	7.2	Wayne	3	2.2
Westmoreland	0	-	Westmoreland	20	1.8	Westmoreland	17	1.5
Wyoming	0	-	Wyoming	2	2.3	Wyoming	1	1.2
York	1	0.1	York	91	8.0	York	21	1.9
Pennsylvania	260	0.7	Pennsylvania	4,844	13.4	Pennsylvania	1,285	3.5
U.S. (1999)	6,657	2.5	U.S. (1999)	45,104	16.7	U.S. (1999)	17,531	6.4

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

Average Annual Incidence Rate for Measles, 1998-2000

<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	1	0.13
Armstrong	0	-	Fayette	0	-	Northumberland	0	-
Beaver	0	-	Forest	0	-	Perry	0	-
Bedford	0	-	Franklin	0	-	Philadelphia	1	0.02
Berks	0	-	Fulton	0	-	Pike	0	-
Blair	1	0.26	Greene	0	-	Potter	0	-
Bradford	0	-	Huntingdon	0	-	Schuylkill	0	-
Bucks	0	-	Indiana	0	-	Snyder	0	-
Butler	0	-	Jefferson	0	-	Somerset	0	-
Cambria	0	-	Juniata	0	-	Sullivan	0	-
Cameron	0	-	Lackawanna	0	-	Susquehanna	0	-
Carbon	0	-	Lancaster	0	-	Tioga	0	-
Centre	0	-	Lawrence	0	-	Union	0	-
Chester	0	-	Lebanon	0	-	Venango	0	-
Clarion	0	-	Lehigh	0	-	Warren	0	-
Clearfield	0	-	Luzerne	0	-	Washington	0	-
Clinton	0	-	Lycoming	0	-	Wayne	0	-
Columbia	0	-	McKean	0	-	Westmoreland	0	-
Crawford	0	-	Mercer	0	-	Wyoming	0	-
Cumberland	0	-	Mifflin	0	-	York	0	-
Dauphin	0	-	Monroe	0	-			
Delaware	0	-	Montgomery	0	-	Pennsylvania	5	0.01
						U.S. (1999)	100	0.04

Average Annual Work-Related Injury Death Rate, 1998-2000

<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	7	2.6	Elk	1	1.0	Montour	3	5.6
Allegheny	57	1.5	Erie	17	2.0	Northampton	15	1.9
Armstrong	7	3.2	Fayette	4	0.9	Northumberland	8	2.8
Beaver	7	1.3	Forest	1	6.7	Perry	6	4.5
Bedford	5	3.4	Franklin	5	1.3	Philadelphia	79	1.8
Berks	15	1.4	Fulton	4	9.2	Pike	4	3.1
Blair	5	1.3	Greene	5	4.0	Potter	0	-
Bradford	3	1.6	Huntingdon	3	2.2	Schuylkill	12	2.7
Bucks	18	1.0	Indiana	10	3.8	Snyder	4	3.5
Butler	9	1.7	Jefferson	3	2.2	Somerset	10	4.2
Cambria	10	2.2	Juniata	2	3.0	Sullivan	1	5.3
Cameron	0	-	Lackawanna	17	2.7	Susquehanna	2	1.6
Carbon	6	3.4	Lancaster	22	1.6	Tioga	4	3.2
Centre	3	0.7	Lawrence	3	1.1	Union	2	1.6
Chester	20	1.6	Lebanon	5	1.4	Venango	3	1.7
Clarion	4	3.2	Lehigh	21	2.3	Warren	1	0.8
Clearfield	4	1.6	Luzerne	15	1.6	Washington	10	1.6
Clinton	4	3.6	Lycoming	7	2.0	Wayne	4	2.9
Columbia	4	2.1	McKean	4	2.9	Westmoreland	17	1.5
Crawford	8	3.0	Mercer	6	1.6	Wyoming	3	3.5
Cumberland	11	1.7	Mifflin	4	2.9	York	25	2.2
Dauphin	13	1.7	Monroe	9	2.3			
Delaware	24	1.5	Montgomery	25	1.1	Pennsylvania	655	1.8
						U.S. (2000)	5,915	2.1

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, 2000

Low Birth Weight			No Prenatal Care First Trimester			Births to Mother <18		
	No.	Pct.		No.	Pct.		No.	Pct.
White:			White:			White:		
Allegheny	730	6.6	Allegheny	656	6.1	Allegheny	155	1.4
Berks	280	6.5	Berks	951	23.4	Berks	167	3.9
Bucks	412	6.3	Bucks	464	7.5	Bucks	72	1.1
Chester	276	5.3	Chester	549	11.0	Chester	72	1.4
Dauphin	193	8.5	Dauphin	210	9.6	Dauphin	60	2.6
Delaware	322	6.3	Delaware	375	7.7	Delaware	80	1.6
Erie	174	5.7	Erie	485	16.3	Erie	104	3.4
Lancaster	333	5.2	Lancaster	1,247	20.1	Lancaster	189	2.9
Lehigh	281	8.3	Lehigh	332	11.0	Lehigh	120	3.6
Montgomery	470	5.9	Montgomery	580	7.9	Montgomery	77	1.0
Northampton	202	7.7	Northampton	253	9.9	Northampton	77	2.9
Philadelphia	683	7.9	Philadelphia	1,508	18.1	Philadelphia	375	4.3
Pennsylvania	8,040	6.7	Pennsylvania	14,232	12.4	Pennsylvania	3,033	2.5
U.S. (2000)	208,818	6.5	U.S. (2000)	468,187	15.0	U.S. (2000)	111,225	3.5
Black:			Black:			Black:		
Allegheny	393	14.5	Allegheny	447	17.3	Allegheny	273	10.1
Bucks	53	16.2	Bucks	83	27.9	Bucks	18	5.5
Chester	38	11.3	Chester	87	28.0	Chester	29	8.6
Dauphin	97	13.9	Dauphin	130	20.3	Dauphin	60	8.6
Delaware	194	13.6	Delaware	409	30.1	Delaware	106	7.4
Erie	44	12.3	Erie	130	37.4	Erie	45	12.5
Montgomery	103	12.8	Montgomery	187	26.3	Montgomery	45	5.6
Philadelphia	1,549	13.8	Philadelphia	3,127	30.1	Philadelphia	1,045	9.3
Pennsylvania	2,757	13.6	Pennsylvania	5,180	27.5	Pennsylvania	1,817	9.0
U.S. (2000)	80,778	13.0	U.S. (2000)	154,003	25.7	U.S. (2000)	48,426	7.8
Hispanic:			Hispanic:			Hispanic:		
Berks	71	8.5	Berks	329	44.4	Berks	94	11.2
Chester	20	5.5	Chester	104	31.3	Chester	22	6.1
Lancaster	59	9.7	Lancaster	79	14.4	Lancaster	86	14.2
Lehigh	74	10.5	Lehigh	128	21.7	Lehigh	65	9.2
Montgomery	17	6.2	Montgomery	68	27.2	Montgomery	11	4.0
Northampton	42	12.7	Northampton	77	24.7	Northampton	32	9.6
Philadelphia	242	9.4	Philadelphia	669	27.2	Philadelphia	270	10.5
Pennsylvania	674	9.0	Pennsylvania	1,857	26.6	Pennsylvania	687	9.1
U.S. (2000)	52,247	6.4	U.S. (2000)	201,942	25.6	U.S. (2000)	51,061	6.3
Asian and Pacific Islander:			Asian and Pacific Islander:			Asian and Pacific Islander:		
Allegheny	26	6.9	Allegheny	30	8.1	Allegheny	1	0.3
Delaware	26	7.4	Delaware	57	17.1	Delaware	3	0.8
Montgomery	39	6.6	Montgomery	67	12.6	Montgomery	0	-
Philadelphia	76	6.1	Philadelphia	311	27.0	Philadelphia	44	3.5
Pennsylvania	250	6.4	Pennsylvania	654	17.9	Pennsylvania	55	1.4
U.S. (2000)	14,623	7.3	U.S. (2000)	30,870	16.0	U.S. (2000)	3,020	1.5

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, 1998-2000

All Causes	No.	Rate	CI (95%)
North Central	19,770	839.1	827.40-850.80 -
Northeastern	48,461	853.8	846.20-861.40 -
Northwestern	31,179	875.0	865.29-884.71
South Central	44,176	835.2	827.41-842.99 -
Southeastern	144,925	893.0	888.40-897.60 +
Southwestern	97,323	859.8	854.40-865.20 -
Pennsylvania	385,834	868.8	866.06-871.54 -
U.S. (2000)	2,404,624	872.4	871.30-873.50

Cardiovascular

Disease	No.	Rate	CI (95%)
North Central	8,450	350.8	343.32-358.28
Northeastern	21,090	357.1	352.28-361.92 +
Northwestern	13,327	362.3	356.15-368.45 +
South Central	18,241	338.6	333.69-343.51 -
Southeastern	55,735	333.9	331.13-336.67 -
Southwestern	40,688	346.0	342.64-349.36
Pennsylvania	157,531	343.7	342.00-345.40 +
U.S. (2000)	934,110	338.8	338.11-339.49

Lung Cancer	No.	Rate	CI (95%)
North Central	1,074	46.8	44.00-49.60 -
Northeastern	2,833	52.0	50.09-53.91 -
Northwestern	1,932	55.9	53.41-58.39
South Central	2,650	50.7	48.77-52.63 -
Southeastern	9,329	59.2	58.00-60.40 +
Southwestern	6,279	57.1	55.69-58.51
Pennsylvania	24,097	55.8	55.10-56.50
U.S. (2000)	154,981	56.3	56.02-56.58

Diseases of Heart	No.	Rate	CI (95%)
North Central	6,637	276.4	269.75-283.05 +
Northeastern	17,040	289.2	284.86-293.54 +
Northwestern	10,338	282.3	276.86-287.74 +
South Central	14,243	264.9	260.55-269.25 -
Southeastern	42,551	255.6	253.17-258.03 -
Southwestern	32,339	275.9	272.89-278.91 +
Pennsylvania	123,148	269.5	267.99-271.01 +
U.S. (2000)	709,894	257.5	256.90-258.10

Female Breast Cancer	No.	Rate	CI (95%)
North Central	334	26.7	23.84-29.56
Northeastern	850	27.8	25.93-29.67
Northwestern	511	26.5	24.20-28.80
South Central	787	26.7	24.83-28.57
Southeastern	2,754	30.5	29.36-31.64 +
Southwestern	1,654	27.3	25.98-28.62
Pennsylvania	6,890	28.4	27.73-29.07 +
U.S. (1999)	41,144	27.0	26.74-27.26

Stroke	No.	Rate	CI (95%)
North Central	1,403	57.4	54.40-60.40
Northeastern	2,783	46.6	44.87-48.33 -
Northwestern	2,135	57.1	54.68-59.52
South Central	3,012	55.5	53.52-57.48
Southeastern	10,079	59.7	58.53-60.87 +
Southwestern	6,228	52.2	50.90-53.50 -
Pennsylvania	25,640	55.2	54.52-55.88 -
U.S. (2000)	166,028	60.2	59.91-60.49

Intentional Self-harm (Suicide)	No.	Rate	CI (95%)
North Central	206	10.1	8.72-11.48
Northeastern	499	11.4	10.40-12.40
Northwestern	329	11.5	10.26-12.74
South Central	499	10.7	9.76-11.64
Southeastern	1,468	10.2	9.68-10.72 -
Southwestern	984	11.4	10.69-12.11
Pennsylvania	3,985	10.8	10.46-11.14 +
U.S. (2000)	28,332	10.3	10.18-10.42

Motor Vehicle Accidents	No.	Rate	CI (95%)
North Central	290	13.8	12.21-15.39
Northeastern	589	13.5	12.41-14.59 +
Northwestern	549	18.8	17.23-20.37 +
South Central	730	15.9	14.75-17.05 +
Southeastern	1,543	10.7	10.17-11.23 -
Southwestern	924	10.7	10.01-11.39 -
Pennsylvania	4,625	12.4	12.04-12.76 -
U.S. (2000)	41,804	15.2	15.05-15.35

Assault (Homicide)	No.	Rate	CI (95%)
North Central	41	2.1	1.46-2.74 -
Northeastern	107	2.6	2.11-3.09 -
Northwestern	70	2.6	1.99-3.21 -
South Central	106	2.4	1.94-2.86 -
Southeastern	1,264	9.1	8.60-9.60 +
Southwestern	329	4.1	3.66-4.54 -
Pennsylvania	1,917	5.4	5.16-5.64 -
U.S. (2000)	16,137	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 rates.
No + or - after a CI denotes no significant difference. State data were compared to U.S. data. See Technical Notes section.

Health Status Indicators by Department of Health District

Infant Deaths, Number and Average Annual Rate By Race and Hispanic Origin, 1998-2000

All Infant Deaths	No.	Rate	μ (95%)
North Central	123	5.8	-2.25 -
Northeastern	267	5.8	-3.33 -
Northwestern	232	7.1	0.00
South Central	323	5.9	-3.33 -
Southeastern	1,494	7.8	3.65 +
Southwestern	665	7.4	1.07
Pennsylvania	3,104	7.1	1.60
U.S. (2000)	27,987	6.9	

White	No.	Rate	Black	No.	Rate	Hispanic	No.	Rate
North Central	109	5.4	North Central	7	18.3	North Central	1	5.8
Northeastern	238	5.5	Northeastern	26	15.4	Northeastern	29	7.7
Northwestern	190	6.2	Northwestern	39	23.7	Northwestern	3	7.1
South Central	268	5.4	South Central	46	13.7	South Central	15	6.9
Southeastern	753	5.5	Southeastern	683	15.5	Southeastern	129	9.0
Southwestern	482	6.1	Southwestern	169	17.6	Southwestern	6	9.3
Pennsylvania	2,040	5.7	Pennsylvania	970	15.9	Pennsylvania	183	8.5
U.S. (2000)	18,216	5.7	U.S. (2000)	8,665	14.0	U.S. (2000)	4,572	5.6

Infant Deaths, Number and Rate By Race and Hispanic Origin, 2000

All Infant Deaths	No.	Rate	μ (95%)
North Central	36	5.1	-1.94
Northeastern	89	5.7	-1.87
Northwestern	78	7.3	0.32
South Central	102	5.6	-2.27 -
Southeastern	473	7.3	0.91
Southwestern	245	8.2	2.49 +
Pennsylvania	1,023	7.0	0.46
U.S. (2000)	27,987	6.9	

White	No.	Rate	Black	No.	Rate	Hispanic	No.	Rate
North Central	32	4.7	North Central	4	31.7	North Central	0	0.0
Northeastern	80	5.5	Northeastern	8	14.2	Northeastern	10	7.5
Northwestern	63	6.2	Northwestern	12	21.9	Northwestern	1	7.4
South Central	83	5.0	South Central	18	15.7	South Central	4	5.2
Southeastern	245	5.4	Southeastern	214	14.6	Southeastern	46	9.2
Southwestern	178	6.9	Southwestern	64	19.8	Southwestern	2	8.8
Pennsylvania	681	5.7	Pennsylvania	320	15.8	Pennsylvania	63	8.4
U.S. (2000)	18,216	5.7	U.S. (2000)	8,665	14.0	U.S. (2000)	4,572	5.6

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

Health Status Indicators by Department of Health District

Selected Diseases

Total Number and Average Annual Rate, 1998-2000

Syphilis	No.	Rate	Tuberculosis	No.	Rate
North Central	0	-	North Central	32	1.6
Northeastern	3	0.07	Northeastern	118	2.7
Northwestern	3	0.11	Northwestern	60	2.1
South Central	3	0.07	South Central	105	2.3
Southeastern	246	1.73	Southeastern	785	5.5
Southwestern	5	0.06	Southwestern	185	2.2
Pennsylvania	260	0.72	Pennsylvania	1,285	3.5
U.S. (1999)	6,657	2.50	U.S. (1999)	17,531	6.4
AIDS	No.	Rate	Measles	No.	Rate
North Central	106	5.3	North Central	0	-
Northeastern	247	5.7	Northeastern	1	0.02
Northwestern	102	3.6	Northwestern	0	-
South Central	374	8.2	South Central	1	0.02
Southeastern	3,681	25.9	Southeastern	1	0.01
Southwestern	334	4.0	Southwestern	2	0.02
Pennsylvania	4,844	13.4	Pennsylvania	5	0.01
U.S. (1999)	45,104	16.7	U.S. (1999)	100	0.04

Low Birth Weight, Number and Percent, By Race and Hispanic Origin, 2000

All Births	No.	Pct.	m (95%)
North Central	451	6.4	-4.09 -
Northeastern	1,140	7.4	-1.40
Northwestern	733	6.8	-3.51 -
South Central	1,471	8.1	2.02 +
Southeastern	5,137	8.0	2.85 +
Southwestern	2,309	7.7	0.00
Pennsylvania	11,241	7.7	1.44
U.S. (2000)	307,030	7.6	

White	No.	Pct.	Black	No.	Pct.	Hispanic	No.	Pct.
North Central	432	6.3	North Central	16	12.7	North Central	6	8.8
Northeastern	1,019	7.1	Northeastern	76	13.6	Northeastern	135	10.2
Northwestern	661	6.6	Northwestern	67	12.2	Northwestern	13	9.6
South Central	1,267	7.6	South Central	154	13.5	South Central	73	9.5
Southeastern	2,867	6.3	Southeastern	1,990	13.6	Southeastern	431	8.6
Southwestern	1,794	6.9	Southwestern	454	14.0	Southwestern	16	7.1
Pennsylvania	8,040	6.7	Pennsylvania	2,757	13.6	Pennsylvania	674	9.0
U.S. (2000)	208,818	6.5	U.S. (2000)	80,778	13.0	U.S. (2000)	52,247	6.4

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

Health Status Indicators by Department of Health District

No Prenatal Care in First Trimester, Number and Percent of Live Births, By Race and Hispanic Origin, 2000

All Births	No.	Pct.	m (95%)
North Central	1,181	17.2	6.10 +
Northeastern	1,834	12.5	-7.20 -
Northwestern	1,683	16.1	4.34 +
South Central	2,312	13.0	-6.04 -
Southeastern	10,575	17.5	20.19 +
Southwestern	2,828	9.7	-23.69 -
Pennsylvania	20,413	14.6	-22.00 -
U.S. (2000)	665,428	16.8	

White	No.	Pct.	Black	No.	Pct.	Hispanic	No.	Pct.
North Central	1,111	16.8	North Central	40	34.2	North Central	20	31.3
Northeastern	1,633	11.9	Northeastern	141	28.1	Northeastern	286	24.1
Northwestern	1,476	15.0	Northwestern	181	34.4	Northwestern	28	22.6
South Central	2,011	12.4	South Central	235	22.1	South Central	172	23.6
Southeastern	5,813	13.4	Southeastern	4,014	29.7	Southeastern	1,318	28.3
Southwestern	2,188	8.6	Southwestern	569	18.4	Southwestern	33	14.8
Pennsylvania	14,232	12.4	Pennsylvania	5,180	27.5	Pennsylvania	1,857	26.6
U.S. (2000)	468,187	15.0	U.S. (2000)	154,003	25.7	U.S. (2000)	201,942	25.6

Live Births to Mothers Under Age 18, Number and Percent, By Race and Hispanic Origin, 2000

All Births	No.	Pct.	m (95%)
North Central	233	3.3	-0.91
Northeastern	482	3.1	-2.71 -
Northwestern	363	3.4	-0.56
South Central	587	3.2	-2.21 -
Southeastern	2,524	3.9	5.54 +
Southwestern	858	2.9	-5.62 -
Pennsylvania	5,047	3.5	-11.49 -
U.S. (2000)	165,728	4.1	

White	No.	Pct.	Black	No.	Pct.	Hispanic	No.	Pct.
North Central	219	3.2	North Central	12	9.5	North Central	6	8.8
Northeastern	436	3.0	Northeastern	32	5.7	Northeastern	112	8.4
Northwestern	304	3.0	Northwestern	54	9.9	Northwestern	9	6.6
South Central	466	2.8	South Central	105	9.2	South Central	54	7.0
Southeastern	1,079	2.4	Southeastern	1,305	8.9	Southeastern	501	10.0
Southwestern	529	2.0	Southwestern	309	9.5	Southwestern	5	2.2
Pennsylvania	3,033	2.5	Pennsylvania	1,817	9.0	Pennsylvania	687	9.1
U.S. (2000)	111,225	3.5	U.S. (2000)	48,426	7.8	U.S. (2000)	51,061	6.3

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

Technical Notes

Data Sources

The Pennsylvania Department of Health's vital statistics registration system was the source for the birth and death statistics that appear in this report except for work-related injury deaths which were from the Census of Fatal Occupational Injuries as conducted by the U.S. Department of Labor. The National Center for Health Statistics was the source for the U.S. birth and death statistics that appear in this report. The latest available U.S. birth statistics are final 2000 data. The latest available U.S. death statistics are preliminary 2000 data (female breast cancer are final 1999 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 1998 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 to review complete data tables, including confidence intervals and data limitations.

Population estimates, for the years 1998 through 2000, 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:

Age	Population
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-9 for 1998; ICD-10 for 1999 and 2000) codes** for the selected causes of death shown in this report are as follows:

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

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

Hispanics can be of any race.

All calculations exclude any unknowns.

Age-Adjusted Rates

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

The age-adjusted death rates that appear in this report were calculated using the direct method and the 2000 United States standard million population distribution (shown in the column on the left). It is important to use the same standard population in the computation of each age-adjusted rate to allow comparability. **Please note that 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 (1998-2000) age-adjusted death rate for suicide of 10.8 to calculate an estimated SE. The rate was based on 3,985 suicides. The square root of 3,985 is 63.13. By dividing the rate of 10.8 by 63.13, one obtains the estimated SE of 0.1711. 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 $10.8 \pm (1.96 \times 0.1711)$ and the result is 10.8 ± 0.34 . Then, by subtracting and adding 0.34 against the original rate of 10.8, a range can be calculated and considered the estimated 95% confidence interval for the state, i.e., 10.46 - 11.14. One could then state, with 95% certainty that the actual age-adjusted suicide rate for the state during 1998-2000 was between 10.46 and 11.14.

To compare a particular county's age-adjusted suicide rate for 1998-2000 with the state's corresponding rate, one must go through the same steps shown directly above to obtain the 95% CI for that county's rate. If the rate for the state is not included in the CI, then the county rate is considered to be significantly different, at the 95% confidence level. For example, at first glance, Blair County's age-adjusted suicide rate for 1998-2000 of 14.2 (based on 54 deaths) seems much higher than the corresponding state rate of 10.8. However, calculation of a 95% CI for Blair County's rate would produce a rather

wide range of 10.41-17.99. Since this range for Blair County also includes 10.8 or the state rate, we can say that the county rate is not significantly different than the state rate, at the 95% confidence level. If we were comparing two counties, any significant difference would be determined by whether their confidence intervals overlapped or not. However, please note that the formula for computation of the SE that we are using is not as precise as others and the application of a more precise methodology may produce somewhat different results. Another important result the user of this formula should note is that, the smaller the number of events, upon which the rate is based, the larger the SE and CI will be. This clearly demonstrates the wider variability (and less reliability) of rates based on smaller numbers. As a general rule, age-adjusted rates based on less than twenty events should be considered unstable and are not recommended for comparative use or in determining significance. For this reason, the CIs were not computed, compared and shown for any age-adjusted mortality rate in this report based on less than twenty events.

Comparison of Crude Rates/Ratios

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

DEPENDENT vs. INDEPENDENT CRUDE RATES:

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

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

on whether the rates being compared are dependent or independent.

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

COMPARISON of DEPENDENT CRUDE RATES

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

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

where:

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

If μ 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:

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

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

Since the value of μ 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 μ value follows the same rules as listed in the previous section for comparing dependent rates based on a small number of events.

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

$$D = r_1 - r_2$$

where:

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

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

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

where:

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

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

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

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

where: d = number of events

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

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

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

$$R = r_1 / r_2$$

where:

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

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

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

where:

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

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

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Appendix

Additional Statistics Available

The Bureau of Health Statistics 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 2001 data are available, 1997-2001 summary data will be created. As updates are made, historical multiple-year data will continue to be available, allowing for computing and comparing of trend data. A complete list of the additional statistics available for use in computing and comparing indicators appears below. Copies of these tabulations can be obtained by contacting the Bureau in writing, by telephone (717-783-2548) or FAX (717-772-3258). However, some of these cross-tabulations are quite lengthy and there may be a charge involved for a large number of copies. More recent tabulations are also available in Portable Document Format (PDF) files and by visiting the Health Statistics pages of the Department's website at 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 1998 Below Poverty Level for State and Counties – Selected Minor Civil Divisions, Number and Percent, 1990 Enumerated Only

*2000 enumerated population data can be accessed via the U.S. Bureau of the Census web site at www.census.gov.

Pennsylvania Health Districts and Counties

