



COMMUNITY HEALTH IN THE LEHIGH VALLEY: AN ANALYSIS OF SECONDARY DATASOURCES

Prepared for St. Luke's' Hospital and Health Network

by A. Lanethea Mathews, Associate Professor of Political Science at Muhlenberg
and Lead Investigator for the Lehigh Valley Research Consortium (LVRC) in conjunction
with a commissioned study on the community health needs of the Lehigh Valley.

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SUMMARY

This report synthesizes and summarizes existing recent public data sources on community health indicators in the Lehigh Valley, including Bucks, Carbon, Lehigh, and Northampton Counties. In gathering data, the research team considered two basic aims:

1. Collecting community health status indicators as recommended by the St. Luke's Community Health Network Advisory Board, and by the Department of Health and Human Services Working Group on Community Health. These indicators include demographic and vital statistics, and mortality and morbidity data, and other targeted local data.
2. Prioritizing community health status indicators of particular interest to the Director of Community Health at St. Luke's Hospital and Health Network. These indicators were further determined in reference to the "Notice 2011-52, Notice and Request for Comments Regarding the Community Health Needs Assessment Requirements for Tax-Exempt Hospitals," related to the Health Care Education Affordability Reconciliation Act of 2010.

A central goal of the research team was to better grasp the most significant health issues facing the Lehigh Valley. An additional goal was to provide background and context for the collection of primary survey data that will supplement existing data to provide a more holistic picture of community health in the counties of interest. The LVRC conducted a survey analysis of community health needs in the Lehigh Valley region; that report is titled, "St. Luke's Community Health Needs Study: Survey Findings." The collection of available secondary data is an important context for the collection of primary data. It is also helpful, we hope, in that it may provide a "model" for ongoing health needs assessments required by recent health care reform.

Assessing community health in the Lehigh Valley through existing sources of data is challenging for a number of reasons. First and most obviously, reliable data are hard to come by; this is especially true at geographic units below the county level. Fewer reliable measures of community health are available at the municipality level. Second, even among national and state studies that permit some analysis of county level measures, data are lacking; we encountered a dearth of information on mental health and oral health, for example—key components of community health. Similarly, the PA Department of Health's statistics lag significantly behind estimates offered by the US Census Bureau's American Community Survey, making analyses across different measures very difficult. Third, a meaningful synthesis of community health in the Lehigh Valley is made more difficult by the considerable variability across the four counties.

Despite these difficulties, this report highlights a number of key community health concerns in the counties of interest. This report is divided into several key areas:

1. County Rankings
2. Demographic & Socioeconomic Statistics
3. Vital Statistics

4. Reportable Diseases, STDs, Cancer, Morbidity
5. Access to Care
6. Targeted Community Health Data

When possible, this report provides trend data stretching back to approximately 2003 to provide a minimum 5-year comparison. The appendices to this report contain supporting data and documentation. It should be noted that this report was last updated in October 2011.

For questions about this report, please contact Lanethea Mathews, Department of Political Science, Muhlenberg College, 2400 Chew Street, Allentown, PA 18104; mathews@muhlenberg.edu; or contact the Lehigh Valley Research Consortium at www.lehighvalleyresearch.org.

1. COUNTY RANKINGS

A useful place to begin thinking about the state of community health in the Lehigh Valley is with the data provided by the 2010 Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, which ranked all US counties on a series of health indicators (<http://www.countyhealthrankings.org>). Using county rankings, Table 1 provides a summary of a few notable findings with respect to the four county comparisons relative to the Commonwealth of Pennsylvania as a whole.

Table 1. Comparing Major Indicators of Community Health: Bucks, Carbon, Lehigh, and Northampton Counties, and the State of PA

Community Health Indicators Measuring HIGHER than other counties and than PA	
Bucks County	Residents with graduate degree Median household and per capita income Deaths among 15-19 year olds from poisoning Drug-induced deaths Accidents
Carbon County	Unemployment Poverty rate Percentage of the population over 65 Percentage of mothers smoking Percentage of mothers not breast feeding Total death rate for men Death rates from heart disease, cancer, chronic low respiratory disease, unintentional injury, diabetes, Alzheimer's disease, and kidney disease Hospitalizations for falls in people over 65 Hospitalizations for poisoning in all age groups up to 75 Hospitalizations for motor vehicle accidents up to age 64 Melanoma Uninsured residents
Lehigh County	Latino population Population under age 18 Percentage of pregnant women not receiving first trimester prenatal care Infant mortality Neonatal mortality Melanoma Breast cancer Hepatitis B Chlamydia People eligible for medical assistance
Northampton County	Hospitalization from falls among all ages up to 44 and over 75 Hospitalizations from motor vehicle accidents for 65 and older Hospitalization for circulatory system issues Cancer rates (especially prostate and bladder cancers) HIV/AIDS

Tables 2 and 3 compare the four counties of interest to all 67 counties in Pennsylvania. A *lower* number indicates a higher ranking. As seen below, there is considerable variation across the four counties; Carbon County ranks highest, or “healthiest,” Lehigh and Northampton Counties fall in the middle, but both are in the top third of Pennsylvania counties for the composite measures. An interesting exception is that Carbon ranks highest among the four in measures of “physical environment”; Bucks ranks lowest in this category. Table 2 provides summary rankings; Table 3 provides the rank for the individual factors that make up the summary scores.

Table 2. Summary of PA County “Rank”

	Health Outcomes*	Health Factors**
County	Rank	Rank
Bucks	7	3
Carbon	56	62
Lehigh	19	17
Northampton	26	12

*Mortality, Morbidity

**Health Behaviors, Clinical Care, Social & Economic Factors, and Physical Environment

Table 3. Components of County Health Rankings

	Mortality	Morbidity	Health Behaviors	Clinical Care	Social, Economic Factors	Physical Environment*
County	Rank	Rank	Rank	Rank	Rank	Rank
Bucks	6	14	2	11	4	48
Carbon	62	41	64	57	46	14
Lehigh	16	32	26	8	24	47
Northampton	8	59	23	25	13	19

*physical environment is measured by:

- environmental quality: annual number of days that air quality was unhealthy for sensitive populations due to (1) fine particulate matter and (2) ozone concentrations, and
- built environment: (1) the distribution of healthy food outlets in a county, and (2) the number of liquor stores per 10,000 people in a county.

County health profiles, provided in Appendix B are available through the PA Department of Health.

2. DEMOGRAPHICS & SOCIOECONOMIC STATISTICS

Population

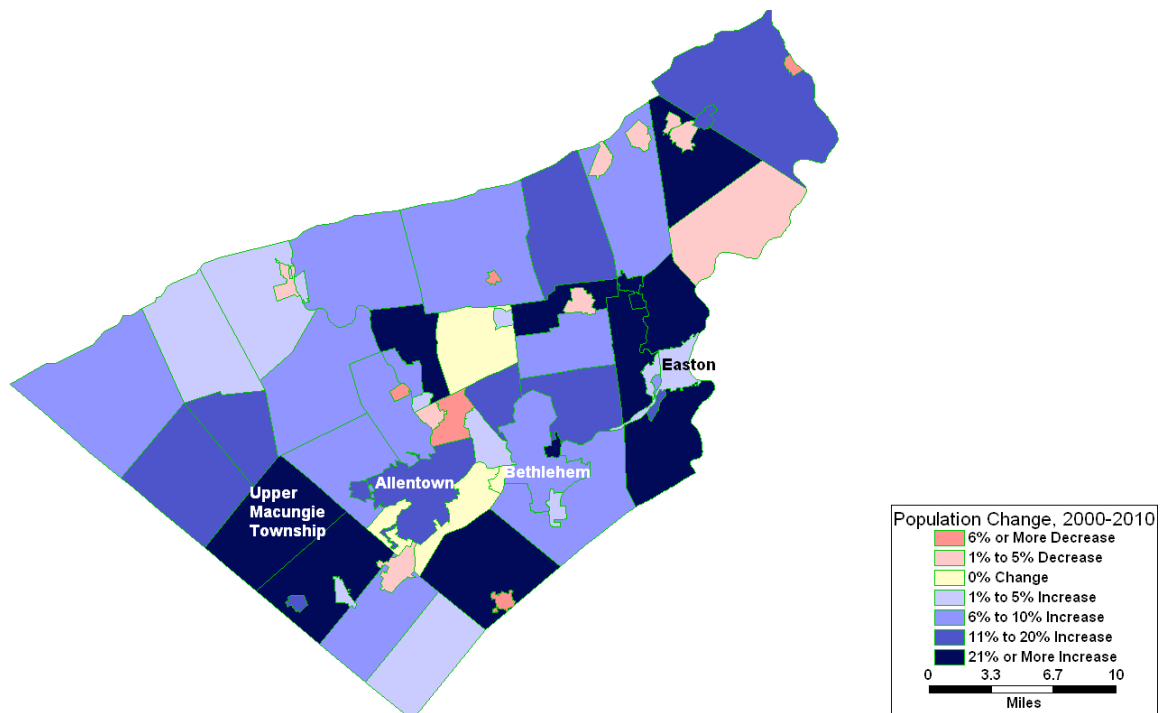
As reported in the LVRC's most recent *State of the Lehigh Valley, 2010*,¹ the overall population in Lehigh and Northampton Counties has increased over the past decade. Lehigh County saw a population increase of 9% between 2000 and 2010; in Northampton, the increase was 11%. In Lehigh County, population increases have been driven by dramatic growth in Lower Macungie, which saw a 59% increase since 2000 and in Upper Saucon, in which population grew 24%. In Northampton County, population growth has been driven by Allen and Forks townships, both of which saw increases of more than 62%. In comparison, population growth has proceeded more slowly in the cities and boroughs, at less than 6% growth overall.

In Lehigh and Northampton, the rate of population growth was steeper between 2000 and 2006 than between 2006 and 2009, suggesting that the rate of growth may be slowing down in some areas. Nonetheless, the Lehigh Valley Planning Commission projects that the Lehigh Valley population will continue to grow faster over the next thirty years than it has in the past thirty years. According to their projections, Lehigh County will grow at about 9.4% per decade between 2000 and 2030; in Northampton population is forecast to grow 12.6% per decade between 2000 and 2030.

Yearly population estimates in Lehigh and Northampton counties are generated by the Lehigh Valley Planning Commission, which takes into account regional changes that US Census Bureau may not. Figure 1 shows population change in these two counties using Planning Commission figures. No such regional estimates or forecasts exist for Bucks and Carbon counties and, as a result, our sense of population change is limited to Census Bureau estimates. Figures 2 and 3 illustrate population and the rate of change in population in all four counties and in the state of PA as a whole, using Census Bureau figures from 2000 to 2010. These data suggest that population growth is faster in all four counties when compared to the state of PA as a whole.

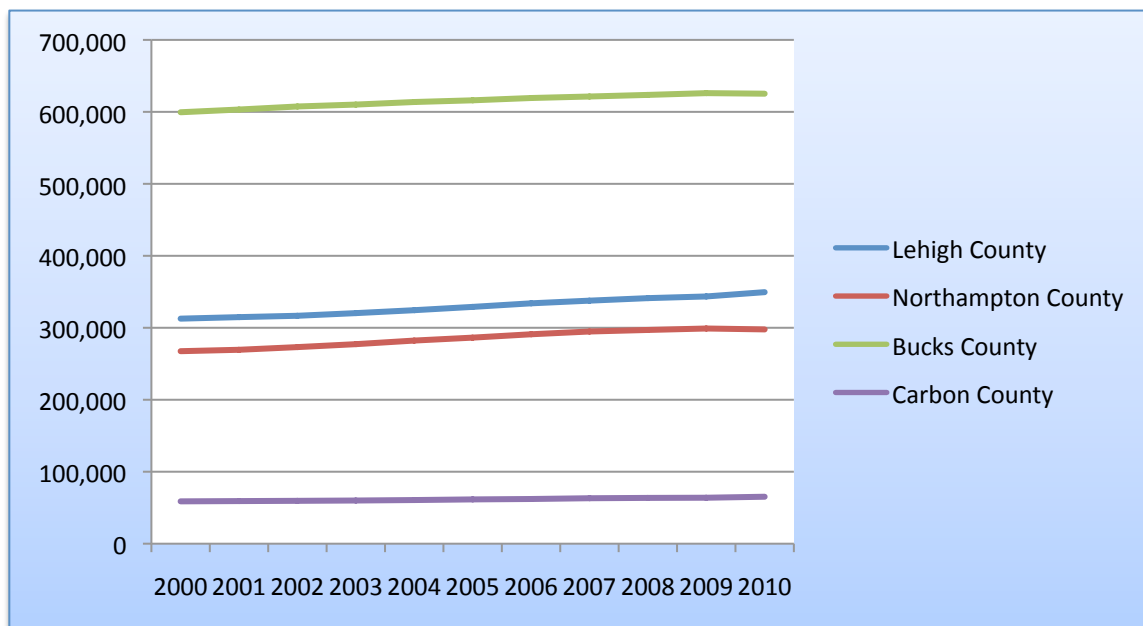
Figure 1. LV Planning Commission Estimates of Population Change in Lehigh and Northampton Counties, 2000-2010

¹ Lehigh Valley Research Consortium, *State of the Lehigh Valley, 2010: Community Trends at a Glance*. www.lehighvalleyresearch.org. Downloaded March 2, 2011. Direct link: <http://www.lehighvalleyresearch.org/files/articles/LVRC%20FINAL%20low%20res.pdf>. LVRC data is drawn from the US Census, American Community Survey estimates, and from the Lehigh Valley Planning Commission.



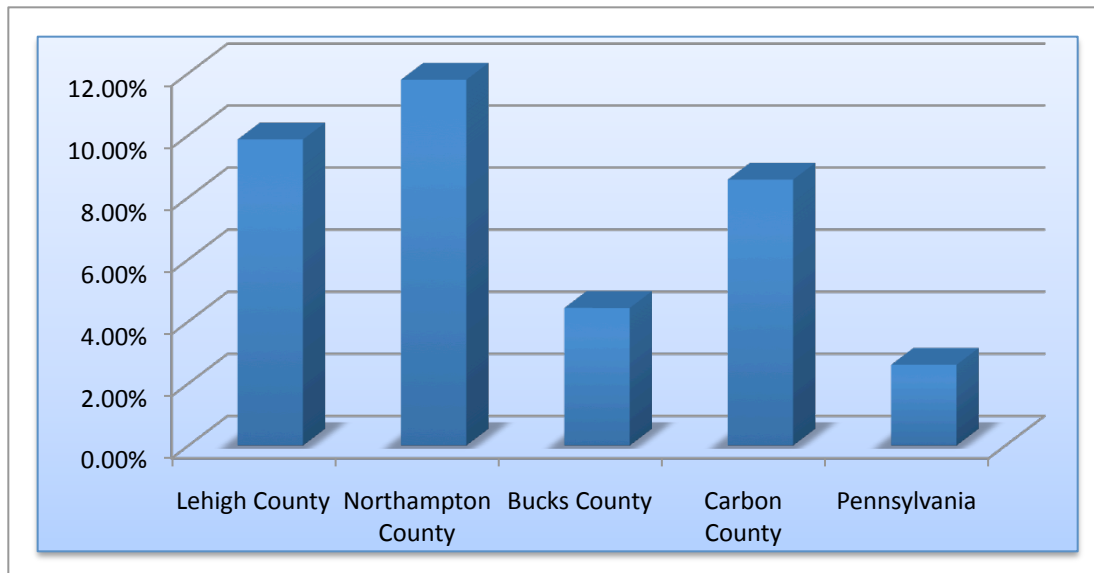
Source: LVRC, *State of the Lehigh Valley, 2010*; LV Planning Commission, “Municipal Profiles: Lehigh and Northampton Counties,” April 2011.

Figure 2. US Census Bureau Estimates of Population by County, 2000-2010



Source: US Census Bureau, *Census Data 2000-2010*

Figure 3. Rate of Population Change, 2000-2010

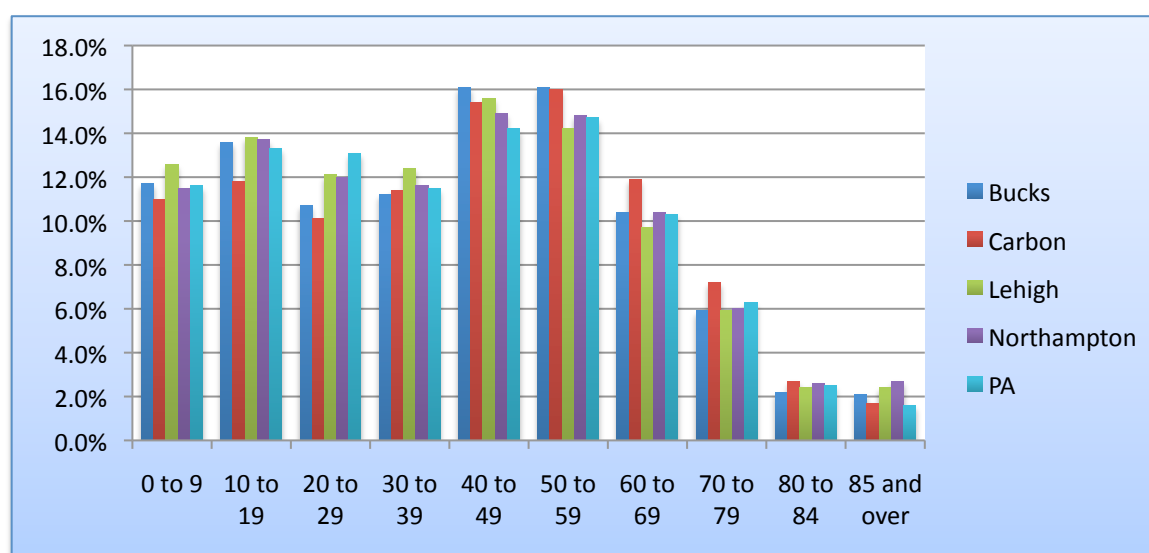


Source: US Census Bureau, Census Data 2000-2010

Age

In addition to overall population growth, the Lehigh Valley is expected to continue a general pattern of aging. While the distribution of age in the Lehigh Valley has been relatively stable over the past ten years, according to the LVRC and other estimates, 15% of the populations of Lehigh and Northampton are older adults, age 65 and older. Figure 4 provides a snapshot of the distribution of age in each of the four counties of interest and in the state of PA from the most recent 2010 Census.

Figure 4. Lehigh Valley Age Distribution, 2010



Source: US Census Bureau, 2010 Census.

Race and Ethnicity

The 2010 Census provides the most recent and reliable picture of race and ethnicity in the Lehigh Valley area. There are few additional sources of local data on these measures. According to newly released 2010 Census estimates, approximately 80% of individuals in Lehigh County, 86% in Northampton County, 96% in Carbon County, and 98% in Bucks County identify their race as “white.” This is relative to 82% white in the state overall. Comparing the distribution of race in the four counties of interest, all counties lag behind the state of PA as a whole in the proportion of African Americans; Bucks and Lehigh counties, however, have higher percentages of Asians than the statewide figure.

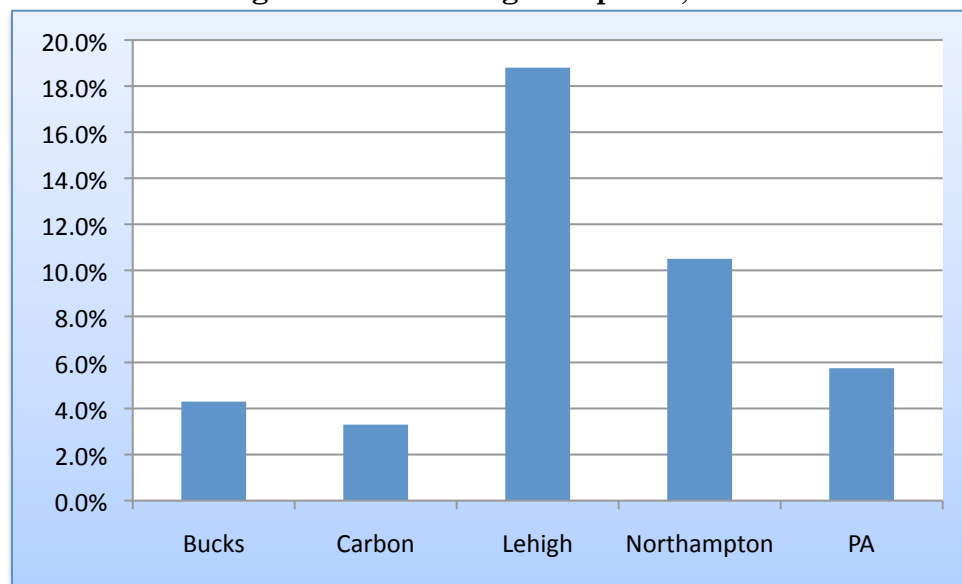
Looking next to ethnicity, the proportion of Hispanics/Latinos in the Lehigh Valley is perhaps the most significant demographic factor shaping community health and social well-being more generally. Close to 20% of the population in Lehigh County identifies as Hispanic, or Latino, followed by 11% in Northampton County. These numbers compare to 6% Hispanic statewide.

Table 4. Race in Counties of Interest and State of PA, 2010

	Bucks	Carbon	Lehigh	Northampton	PA
White	89.2%	95.8%	79.1%	86.6%	81.9%
Black or African American	3.6%	1.5%	6.1%	5.0%	10.8%
American Indian/Alaskan Native	0.2%	0.2%	0.4%	0.2%	0.2%
Asian	3.8%	0.5%	2.9%	0.0%	2.7%
Native Hawaiian/Pacific Islander	0.0%	0.0%	0.0%	0.0%	0.0%

Source: US Census Bureau, 2010 Census. Figures do not necessarily add up to 100% due to respondent choices on Census Bureau survey.

Figure 5. Percentage Hispanic, 2010



Source: US Census Bureau, 2010 Census

Poverty, Unemployment, and Income

The *2010 State of the Valley* report released by the LVRC shows that Lehigh and Northampton Counties combined have fared relatively well in relation to the nation as a whole when it comes to unemployment and to employment growth; nonetheless, the region was hard hit by the recent recession and, compared to the Mid-Atlantic region and the national as a whole, has not fared as well.

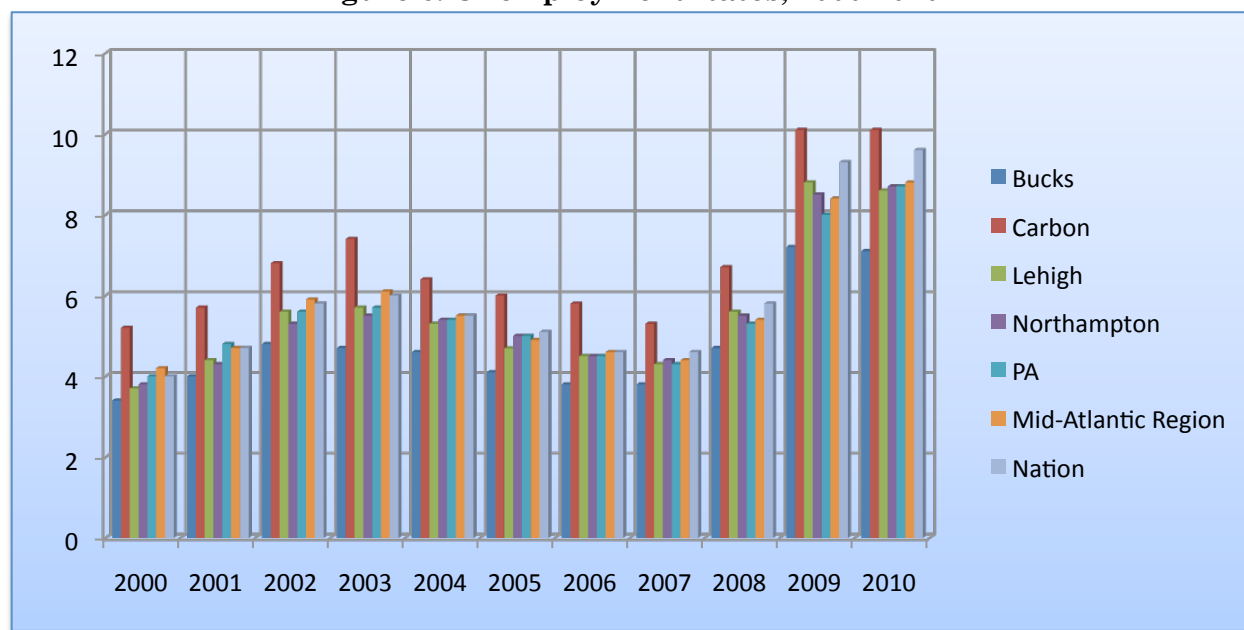
Considering unemployment across all four counties of interest, the picture becomes more mixed given the relatively high rate of unemployment in Carbon County in particular. Table 5 and Figure 6 show December 2010 unemployment rates across all four counties in comparison to the state of PA, to the Mid-Atlantic region, and to the nation as a whole. As noted, Carbon County has consistently experienced higher rates of unemployment than any other county in the Lehigh Valley and then any other geographical unit of comparison. At the time of writing, December 2010 unemployment estimates were as follows:

Table 5. Unemployment Rate, December 2010

United States	9.4%
Mid-Atlantic Region	8.5%
Pennsylvania	8.5%
Bucks County, PA	7.1 %
Carbon County, PA	10.1%
Lehigh County, PA	8.6%
Northampton County, PA	8.7%

Source: Bureau of Labor Statistics. Not seasonally adjusted.

Figure 6. Unemployment Rates, 2000-2010

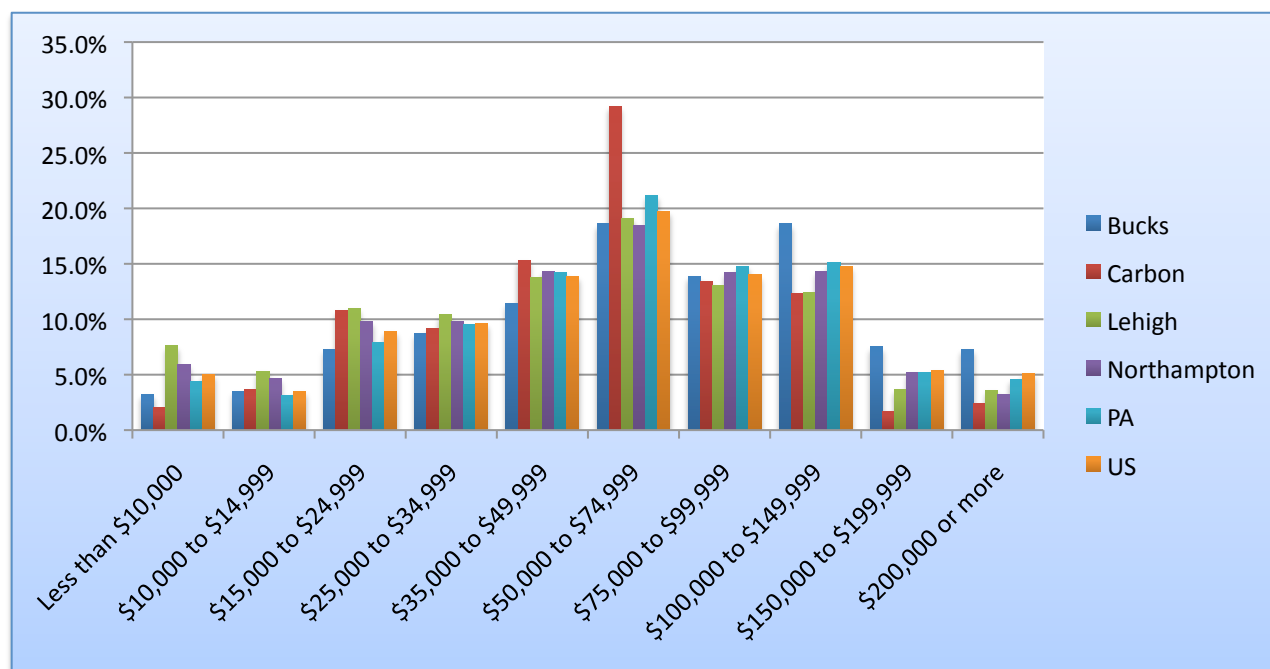


Source: Bureau of Labor Statistics. Not seasonally adjusted.

The distribution of income in the Lehigh Valley provides a similar mixed view of the socioeconomic health of our communities. As seen in Figure 7, although the general view of

income distribution across the four counties is similar and parallel to statewide and nationwide distributions, there are some notable differences. In Lehigh County, for example, there are significant numbers of low-income households; 24% of households in Lehigh County and more than 20% of households in Northampton County reported incomes lower than \$25,000 in 2010. In Bucks, that figure is 14%; in Carbon, 17%; statewide, 15.4%; nationwide, 17.4%. Households in Bucks County reported higher than state and national average incomes, and the differences are more stark as households move up the income-scale. Carbon County is unique for the sizeable numbers of households earning \$50,000 to \$74,999 per year—far more than the averages in the other three counties, the state, and the nation.

Figure 7. Household Income, 2010



Source: US Census Bureau, 2010 Census

In sum, demographic and socioeconomic data in the Lehigh Valley area present an interesting and unique context within which to consider key indicators of community health. Although the state of Pennsylvania has lost population over the past decade, population has been growing steadily and in excess of state averages in the four counties of interest, particularly in the suburban communities in Lehigh and Northampton Counties. The demographics of population, moreover, continue to shift as well. Most glaringly, the percentages of Lehigh and Northampton County Hispanic/Latino residents continues to increase and to exceed statewide proportions. Finally, with the exception of Bucks County, a greater percentage of households in the Lehigh Valley area are concentrated in lower income levels when compared to statewide and nationwide averages.

3. VITAL STATISTICS

Birth and death statistics at the county level (and, for some data, at the municipality level) are available through the PA Department of Health:

<http://www.portal.state.pa.us/portal/server.pt?open=514&objID=809799&mode=2>.

This section summarizes key vital statistics for the state of PA and the four counties, Bucks, Carbon, Lehigh, and Northampton.

Birth Statistics

The average fertility rate across the United States has been declining since reaching an all time high in 2007 at 69.5 births per 1000 women aged 15-44. Nationwide, the fertility rate for the 12-month period ending in June 2010 fell 3% to 65.6 births per 1000 women of childbearing age.² Birth rates in the state of Pennsylvania have consistently lagged below the national average, although the direction and slope of change in births mirrors changes at the national level. In 2008, for example, the general fertility rate in the state of PA was 60.3 per 1000 women ages 15-44; nationwide the figure was 68.6. The Centers for Disease Control preliminary data for 2009 suggests that overall US births declined 3% since 2008, equal to a general fertility rate of 66.7 per 1000 women. These data also suggest that the average general fertility rate in the state of PA remained unchanged at 60.1 for 2009.³

Considering births in the Lehigh Valley area, average annual general fertility rates from 2006 through 2008, as provided by the PA Department of Health, are listed in Table 6. In general, fertility rates in Bucks, Carbon, and Northampton Counties are significantly lower than the corresponding value in the state of PA; Lehigh County has a significantly higher fertility rate than the state average. Fertility rate data provided by the PA Department of Health is not available for 2009 or 2010 at time of writing.

The CDC reports that births for women in all age groups between 15 and 39 declined nationwide between 2007 and 2008, while births among women between 40-44 years of age reported more births than at any other time in the past 40 years.

Table 6. Average Fertility Rate, 2006 to 2008

² Paul D. Sutton, Center for Disease Control, "Recent Trends in Births and Fertility Rates through June 2010," December 2010, <http://www.cdc.gov/nchs/data/hestat/births2010/births2010.htm>.

³ Joyce Martin, Brady Hamilton, Paul Sutton, Stephanie Ventura, TJ Mathews, Michelle Osterman, "Births: Final Data for 2008," *National Vital Statistics Report* Vol. 59, No. 1 (December 2010), US Department of Health and Human Services; Brady Hamilton, Joyce Martin, Stephanie Ventura, "Births: Preliminary Data for 2009," *National Vital Statistics Report* Vol. 59, No. 1 (December 2010), US Department of Health and Human Services, <http://www.cdc.gov/nchs/nvss.htm>

Average Annual General Fertility Rate, 2006 to 2008	
Pennsylvania	60.1
Bucks County	56.9
Carbon County	53.7
Lehigh County	66.5
Northampton County	55.3

Source: PA Department of Health, County Health Profiles, 2010. Note: General Fertility Rate = Number of total live births per 1,000 females of childbearing age (15-44). Red=significantly higher than the state average; Blue=significantly lower than the state average.

Teenage Birthrates

Of particular interest to studies of community health, the CDC reports that national rates of teenage births (among mothers age 15-19) fell 2% in 2008 to 41.5 per 1000 mothers, reversing an increase between 2006 and 2008 in an otherwise long-term decline of approximately 3% per year from 1991 to 2005. The birthrate for teenagers ages 15 to 19 in the state of Pennsylvania for 2008 was 31.5 per 1000 overall, well below the national average. This overall figure masks important differences among racial and ethnic groups, however. For Hispanic mothers ages 15 to 19, the rate was 100.4 per 1000; for Non-Hispanic Blacks the figure was 69.9 and for Non-Hispanic Whites it was 20.3.

The Pennsylvania Department of Health's Vital Statistics 2008, notes that there were 13,708 resident live births by mothers ages 15 to 19 in 2008 equal to a rate of 29.9 per 1000 women in this age range (down from a rate of 33.9 per 1000 in 2000).

Table 10 displays teenage birth rates in the four counties of interest for the 2010, using 2000-2006 data from the national Vital Statistics System via the county health rankings (at the time of writing, longitudinal data at the county level was not accessible). With the exception of Bucks, the counties of the Lehigh Valley each report higher teen birth rates than the state or national average.

Table 7. 2010 Teen Birth Rate

PA	31
Bucks	15
Carbon	32
Lehigh	37
Northampton	40

Source: County Health Rankings, per 1000 births

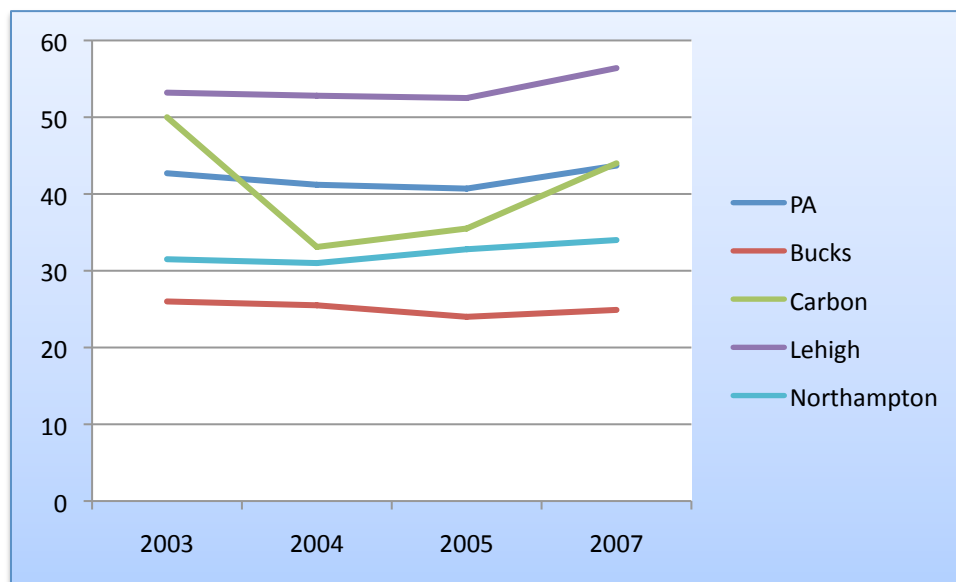
Births to teenagers are at higher risk of low birth weight, preterm birth, and death in infancy and, as a result, community health practitioners have been concerned with reducing teenage birth rates for decades. Births among younger women, ages 15 to 19, and among women over 45 have higher rates of low weight births.

Teenage Pregnancy

Considering teenage pregnancy, the picture is somewhat complicated. The national teenage pregnancy rate in 2006, for example, was 71.5 pregnancies per 1000 women ages 15-19, constituting approximately 7% of all pregnancies across all ages.⁴ The corresponding teenage birth rate this year was 41.9 births per 1000 women. The Guttmacher Institute estimates that in the state of Pennsylvania for the year 2005 (the most recent year for which data is accessible), the rate of teenage pregnancy was 53 per 1000 among women ages 15-19; the teenage birthrate this year was 30. Pregnancy rates and teenage birth rates among Black women (rate equal to 141 per 1000) and Hispanic women (rate equal to 147 per 1000) ages 15 to 19 this year were significantly higher than for whites.

Figure 8 shows estimated teenage pregnancy rates from 2003-2008 for the state of PA and the four counties of interest according to data collected from the PA Department of Health.

Figure 8. Teenage Pregnancy Rates, 2003-2008



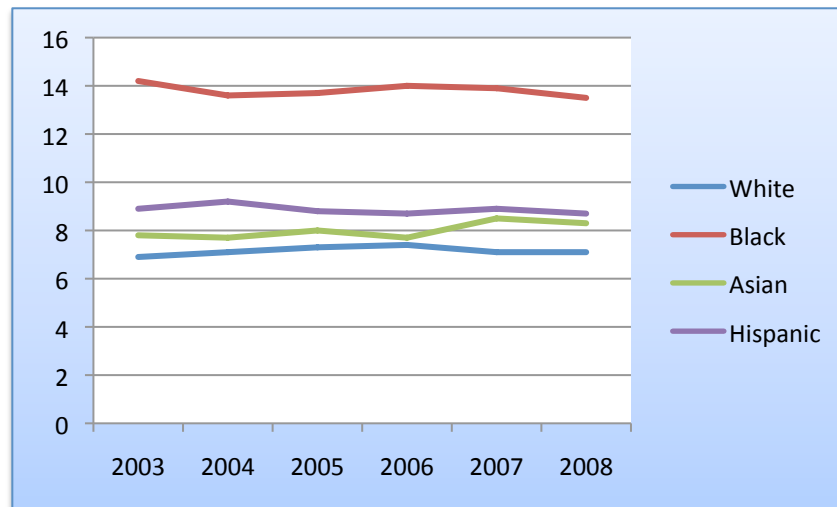
As shown in this figure, Lehigh County's teenage pregnancy rate is significantly higher than that of the other four counties and of the state as a whole and it does not appear to be declining or leveling. In 2008, for example, the rate of teenage pregnancy in the county of Lehigh was 56.8 per 1000 women age 15-19, compared to 47.1 in Carbon, 33.2 in Northampton, 24 in Bucks, and 44.3 in the state as a whole.

⁴ Guttmacher Institute, US Teenage Pregnancies, Births and Abortions: National and State Trends and Trends by Race and Ethnicity, January 2010.

Low Birth Weight

Reducing the percentage of infants born at low birth weight to a target of 5.0% was a Healthy People 2010 goal of the state of Pennsylvania. The PA Department of Health reports that that between 2004 and 2008, the percent of lower birth weight infants increased slightly from 8.2% in 2004 to 8.6% in 2006, and then decreased to 8.3% in 2008. Additionally, the percentage of low weight births for Blacks, Asians, and Hispanics declined between 2006 and 2008, whereas for Whites, the figure remained the same. Low birth weight births were highest across the state among Black mothers, followed by Hispanics, Asians, and Whites.

Figure 9. Percent Low Birth Weight by Race and Hispanic, PA 2003-2008



Figures 9- 12 illustrate the percentage of low births among mothers by race/ethnicity for three counties of interest providing some points of comparison (data in Carbon County is only available for whites providing no racial or ethnic comparison opportunity on this measure). In each of the three counties, whites have the lowest percentage of low weight births while Blacks have the highest. Whereas in 2008, 6.1% of births among white mothers were of low birth weight, among Black mothers the figure was 16.9%. In Northampton County, the figures were 9.2% and 14.2% respectively.

Figure 10. Percent Low Birth Weight by Race and Hispanic, Bucks County, 2003-2008

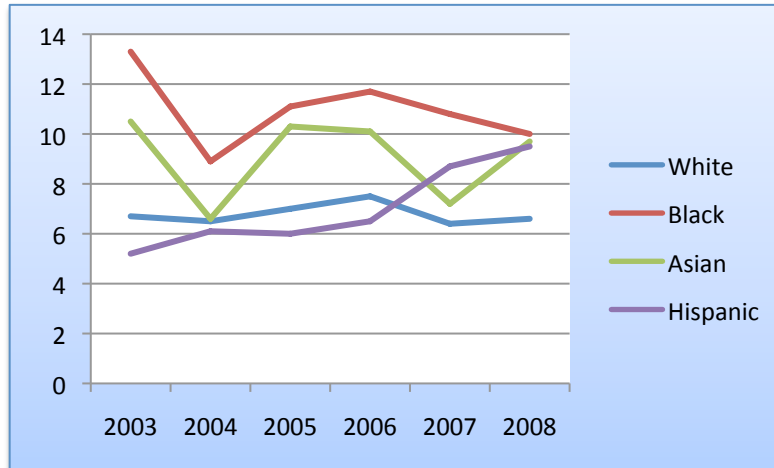


Figure 11. Percent Low Birth Weight by Race and Hispanic, Lehigh County 2003-2008

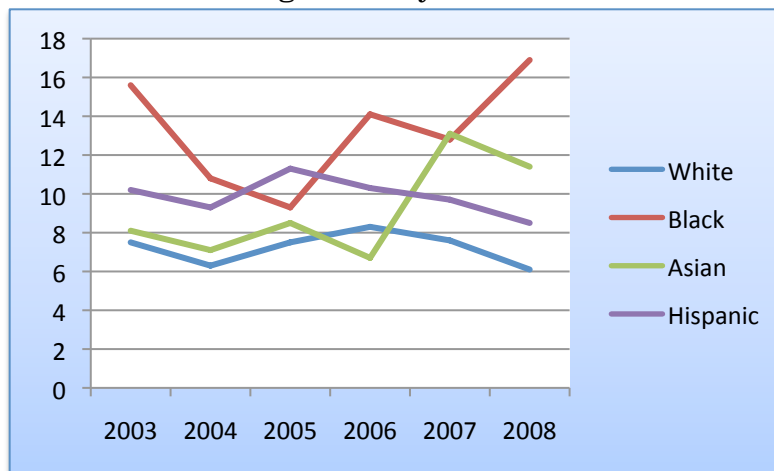
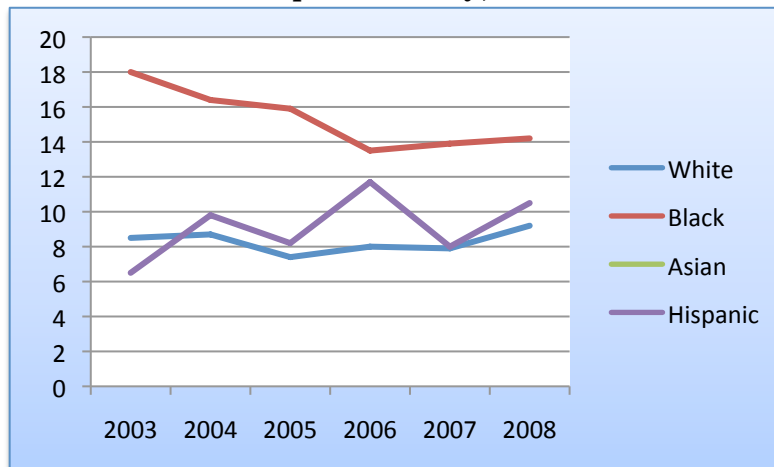


Figure 12. Percent Low Birth Weight By Race and Hispanic, Northampton County, 2003-2008



Infant Mortality

The Healthy People 2010 target goal for national infant mortality was 4.5 infant deaths per 1000 live births. Nonetheless, at 6.78 in 2008, the US infant mortality rate has not declined significantly since the beginning of the 21st century.⁵

Table 8. Infant Morality, 2003-2008

	2003	2004	2005	2006	2007	2008
US	6.8	6.8	6.9	6.7	6.8	6.8
PA	7.3	7.1	7.2	7.5	7.5	7.3
Bucks	5.1	6.9	3.8	4	4.1	4.4
Carbon	*	*	*	*	*	*
Lehigh	7.2	3.6	5.6	6.5	9.8	8.1
Northampton	3.8	5.2	4.7	7.7	6.1	4.4

Source: cdc.gov; PA Department of Health

*Notes: * = Count is fewer than 10 cases; Blue= Significantly lower than the state infant mortality rate.*

Considering the state of Pennsylvania, as seen in Table 8, infant mortality has been stable at about 7.3 per 1000 live births. In Bucks county, infant mortality has consistently been significantly below the state average. In Lehigh and Northampton counties, the general trend is for a higher infant mortality rate when compared to the state as a whole.

Summary: Birth Statistics

The PA Department of Health collects additional characteristics of births and of mothers in the state and counties of Pennsylvania. Table 9 below provides a snapshot of some of these data, considering a range of measures for the year 2008. As seen in Table 9, Bucks, Carbon, and Northampton counties boast a higher percentage of mothers receiving first trimester prenatal care when compared with the state as whole. Northampton has the highest rate of babies born at low birth weight among women of all ages and races. Carbon has the highest percentage of mothers smoking, 26%, and the lowest percentage of mothers who report breastfeeding.

⁵ Marian MacDorman and TJ Mathews, "Recent Trends in Infant Mortality in the United States," NCHS Data Brief No. 9 (October 2008).

Table 9. Additional Birth Statistics, 2008

	Bucks		Carbon		Lehigh		Northampton		Pennsylvania	
	Number	%	Number	%	Number	%	Number	%	Number	%
Mothers with Prenatal Care in 1st Trimester, 2008	11,841	85.6	1,346	80.9	8,326	79.5	6,489	83.3	291,226	79.7
Low-Risk First-Time Mothers Giving Birth by Cesarean	755	35.7	57	22.5	387	26.6	302	27.7	14,653	28.4
Low Birth Weight	1,351	7.3	149	7.4	1,118	8.6	870	9.0	37,276	8.4
Mothers who did not smoke	5,327	89.2	478	74.1	3,460	86.7	2,510	84.3	118,936	83
Breastfeeding Mothers	3,861	72.2	401	59.8	3,186	75.7	1,930	69.0	94,789	66.5

Mortality

In this section, we first report overall mortality rates, then the ranking of causes of death, then mortality rates for specific diseases, paying particular attention to notable county-level differences.

According to the National Vital Statistics Report of 2008, the age-adjusted death rate decreased from 760.2 deaths per 100,000 in 2007 to 758.7 deaths per 100,000 in 2008. Preliminary data for 2009 suggests that the rate dropped again to 741.0 deaths per 100,000. Also nationally, age-adjusted death rates for 6 of the 15 leading causes of death also declined between 2007 and 2008, including heart disease malignant neoplasms, cerebrovascular diseases, accidents, diabetes mellitus, and assault. Death rates for 6 of the leading 16 causes of death increased during this time, including chronic lower respiratory disease, Alzheimer's disease, influenza and pneumonia, Nephritis, nephritic syndrome and nephrosis, suicide, essential hypertension and hypertensive renal disease. Nationally, life expectancy decreased from 77.9 years in 2007 to 77.8 years in 2008.

Turning to the state of Pennsylvania, as seen in Table 10., deaths rates for 2008 are significantly higher than the national average (814.9 per 100,000 in the state of PA compared to 758.7 in the US as a whole). Looking within the state, for overall mortality, Bucks, Lehigh, and Northampton counties have significantly lower rates than the state of Pennsylvania for both men and women. In Carbon County, however, there is a significantly higher death rate for men, while the death rates for women and the total population are not significantly different from the death rate in Pennsylvania.

General increases and decreases in death rates in the state of Pennsylvania and the counties of interest generally follow national trends, consistently declining over time. The

one exception to this is the increases in the death rate in Carbon County between 2003 and 2006.

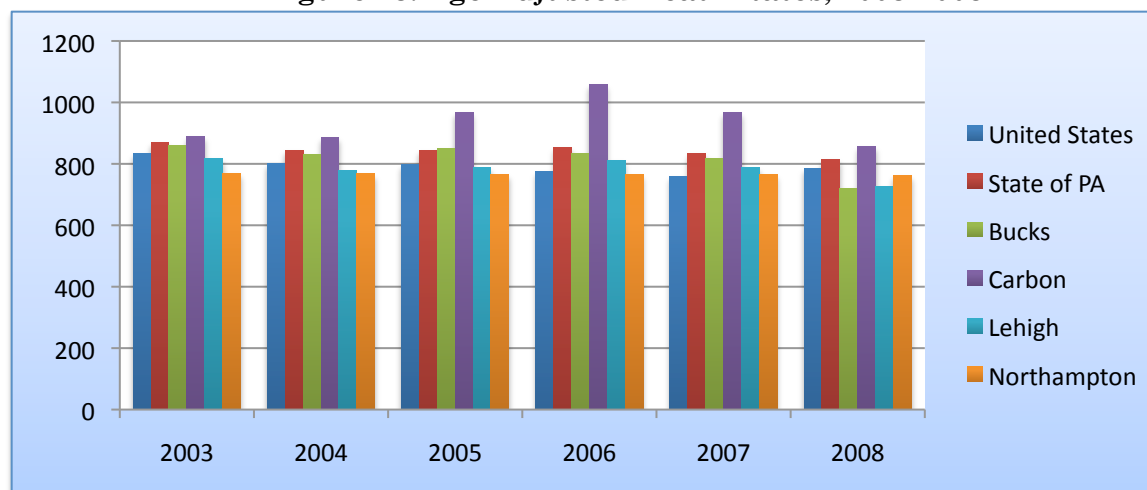
TABLE 10. Age-Adjusted Death Rates, 2008

	<u>Bucks</u>	<u>Carbon</u>	<u>Lehigh</u>	<u>Northampton</u>	<u>Pennsylvania</u>
2008 Death Rate (per 100,000)	720.7	857.2	727.1	763.5	814.9
Male	830.9	1,099.0	881.3	931.2	986.9
Female	631.8	672.1	612.9	644.5	685.1

Source: PA Department of Health,

<http://www.portal.state.pa.us/portal/server.pt?open=514&objID=596006&mode=2>.

Figure 13. Age-Adjusted Death Rates, 2003-2008



Of course, reported overall age-adjusted death rates may mask important differences among individuals as defined by age, race, ethnicity, and other important demographic characteristics.

For example, although in most age brackets, the total death rates in each county are not significantly different from the corresponding rate in Pennsylvania, nonetheless, in Bucks and Northampton counties, the death rates of children age 0-4 are significantly lower than in Pennsylvania. Bucks County adolescents (15-19) have significantly higher death rates than Pennsylvania for accidental drug poisoning, accidental poisoning and exposure to noxious substances, non-transport accidents, and drug-induced deaths. In the state of Pennsylvania, as in the nation as a whole, death rates are lowest among 5 to 9 year olds.

Turning to other important demographic differences, men in Carbon County have significantly higher death rates compared to the state and to the nation at

1,099.0 deaths per 100,000. Mortality statistics by racial and/or ethnic group are not available for statistical calculation at the county level, other than the reported mortality rate among Hispanics living in Lehigh County; for this group, 2008 mortality was equal to 541.8 per 100,000, statistically higher than both the statewide average (460.9) and the national average (530.7).

In addition to general mortality statistics, data on leading causes of death are helpful for identifying community health concerns. The top 15 leading causes of death across the United States are listed in Table 11 below, providing some points of comparisons when considering statewide and county-level data.

Table 11. Leading Causes of Death, United States, 2008

1.	Diseases of the heart
2.	Malignant neoplasms
3.	Chronic lower respiratory diseases
4.	Cerebrovascular diseases
5.	Accidents/Unintentional injuries
6.	Alzheimer's disease
7.	Diabetes mellitus
8.	Influenza and pneumonia
9.	Nephritis, nephrotic syndrome and nephrosis
10.	Intentional self-harm/Suicide
11.	Septicemia
12.	Chronic liver disease and cirrhosis
13.	Essential hypertension and hypertensive renal disease
14.	Parkinson's disease
15.	Assault/Homicide

According to the National Vital Statistics Report, in 2009, intentional self-harm/suicide became the eleventh leading cause of death, switching places with septicemia, which became the tenth.

As seen in Table 12, in the state of PA, the leading of causes of death in the state roughly parallel with those in the nation, with the exception that stroke and respiratory disease are in alternate order for the state of PA. In addition, suicide is ranked 10th in leading causes of death for the nation; in PA, suicide is not among the top 10 causes.

Looking within the counties of interest in PA, the ordering of leading causes of death is the same in all counties as in the state, with one exception: in all four counties, diabetes is a more important cause of death than Alzheimer's.

Some other notable results of the comparison:

- Except for Carbon, the counties have lower death rates from heart disease, cancer, accidents, and kidney disease than the state.
- Northampton County has the lowest death rate from stroke.
- All the counties have lower rates of influenza/pneumonia than the state.

Based on data from the PA Department of Health, over the two-year period from 2006 to 2008, Lehigh County had significantly higher rates of death caused by Alzheimer's disease, anemia, falls, and mental health behaviors when compared to the other counties of the state. Northampton County, by comparison, reported significantly higher death rates as a result of diabetes mellitus, and hypertensive heart disease. In Bucks County over this same period, there were significantly more deaths from atherosclerotic cardiovascular disease, brain cancer, chronic lower respiratory disease, falls, mental and behavioral disorders when compared to other PA counties. Carbon ranks significantly higher than all other counties on all leading causes of death.

It is not possible to gather meaningful statistical data on leading causes of death and race and ethnic categories, other than to note that in Lehigh County, Hispanics are significantly more likely to die from acute myocardial infarction, coronary heart disease, and ischemic heart disease, than in other counties of the state.⁶

Table 12. Leading Causes of Death, Pennsylvania and 4 Counties, 2007

	<u>Pennsylvania</u>		<u>Bucks</u>		<u>Carbon</u>		<u>Lehigh</u>		<u>Northampton</u>	
<u>Cause of Death</u>	<u>Rank</u>	<u>Death Rate/ 1,000</u>	<u>Rank</u>	<u>Death Rate/ 1,000</u>	<u>Rank</u>	<u>Death Rate/ 1,000</u>	<u>Rank</u>	<u>Death Rate/ 1,000</u>	<u>Rank</u>	<u>Death Rate/ 1,000</u>
Heart Disease	1	2.64	1	1.99	1	2.66	1	1.94	1	2.04
Cancer	2	2.33	2	1.87	2	2.27	2	1.87	2	1.83
Cerebrovascular (stroke)	3	0.57	3	0.53	3	0.46	3	0.42	3	0.38
Chronic Low Respiratory Disease	4	0.49	4	0.42	4	0.51	4	0.36	4	0.33
Unintentional Injury	5	0.45	5	0.36	5	0.51	5	0.39	5	0.29
Alzheimer's Disease	6	0.28	7	0.21	7	0.35	7	0.28	7	0.21
Diabetes Mellitus	7	0.28	6	0.17	6	0.38	6	0.20	6	0.26
Nephritis (Kidney Disease)	8	0.24	8	0.19	8	0.24	8	0.20	8	0.17
Influenza & Pneumonia	9	0.21	9	0.17	9	0.16	9	0.14	9	0.15
Septicemia	10	0.16	10	0.18	10	0.16	10	0.18	10	0.14

Source: PA Department of Health,

<http://www.portal.state.pa.us/portal/server.pt?open=514&objID=596006&mode=2>

⁶ County health profiles contain additional information on leading causes of death by age group; these are provided in the appendix.



4. REPORTABLE DISEASES, STDS, CANCER, MORBIDITY

This section summarizes key health indicators related to reportable diseases, chronic diseases and conditions, and sexual transmitted diseases. Although the state of Pennsylvania tracks 67 reportable diseases, including communicable diseases—HIV/AIDs, STDs, and Tuberculosis—it is difficult access county level data on all but a few of them. This results from several factors, including lack of publicly available data and, in other instances, the small number of cases occurring for particular diseases that make statistical analysis difficult. This section compares available county-level and state wide data and national data for a number of infectious and communicable diseases.

Reportable Diseases

Table 13 first provides a quick overview of how the state of PA compares to the nation as a whole for key notifiable diseases that have shown marked increase or decrease over the past year. For example, despite the fact that national incidence of gonorrhea has declined significantly to the lowest reported levels, the rate in the state of Pennsylvania has been increasing. Increases in gonorrhea incidence, moreover, are geographically concentrated in five counties including Lehigh County.

Table 13. Highlights of Selected National Notifiable Diseases Across the US, 2009

Notifiable Diseases with INCREASED NATIONAL Occurrence 	Notifiable Diseases with DECREASED NATIONAL Occurrence 
Brucellosis <ul style="list-style-type: none"> 46.3% increase compared to 2008, but constant compared to 2004-2007; 61.5% of patients are Hispanic; majority of cases from California, Florida, Georgia, Michigan, and Texas there were 2 cases of Brucellosis in the state of PA in 2008 	Cyrtosporidiosis <ul style="list-style-type: none"> decreased for second consecutive year; most frequently reported in children aged 1 to 9 years 466 cases confirmed in the state of PA in 2008
Lyme Disease <ul style="list-style-type: none"> 3.6% increase in confirmed cases and 35.6% in probable cases between 2008 and 2009 In the state of PA there were 5722 cases of Lyme disease (confirmed and probable combined) in 2008, representing no change over the Lyme Disease incidence in 2007 at 32.1 per 100,000. 	Gonorrhea <ul style="list-style-type: none"> 2009 rate was 10% lower than in 2008 and was the lowest ever reported; decreases reported in all racial/ethnic groups; rates decreased among women and men although they remain higher among women; rates for blacks in 2009 remained 20.5 X higher than for whites despite overall decreases. There were 10,138 cases of gonorrhea in Pennsylvania in 2008, continuing an upward trend from 2007; younger individuals and racial and ethnic minorities

account for the largest share of individuals. Gonorrhea in PA is geographically concentrated in Allegany, Erie, Lehigh, Lancaster and Delaware Counties. In Lehigh County, the gonorrhea incidence rate for 2007 was 115.99 per 100,000.

Pertussis

- After declining following the 2004 peak (8.9 per 100,000), incidence is rising again (5.54 in 2009, 4.18 in 2008, and 3.53 in 2007)
- Pertussis rates are generally higher in the Northeast region; in the state of PA, the rate was 3.9 per 100,000 from 2006-2008.

Syphilis, Primary and Secondary

- Eight consecutive year of increases; highest rate since 1995; 62% of cases in 2009 across 44 states and the District of Columbia were in men who have sex with men; increases also in women living in the south
- There were 1027 reported cases of syphilis in Pennsylvania in 2008. The incident rate in the state from 2006 to 2008 was 2.1 per 100,000.

Source: Center for Disease Control and Prevention, Department of Health and Human Services, *Morbidity and Mortality Weekly Report* Vol. 58, No. 3 (May 13, 2011)

Table 14 provides a snapshot comparative summary of incidence rates of major infectious diseases across the counties of interest in the state of PA.

Table 14. Major Infectious Diseases

Illness Indicator	Lehigh	Northampton	Bucks	Carbon	PA
Tuberculosis	3.8	*	3.1	*	3.1
Lyme Disease	43.2	37	82.4	33	32.1
Hepatitis: Type B Acute	3.2	*	*	*	1.3
Hepatitis: Type B Chronic	22.6	12.9	17.4	*	15.8
Campylobacteriosis	11.8	13.2	14.3	*	12.8
Giardiasis	3.5	6.4	7.6	*	7.1
Salmonellosis	16.5	12.2	16.9	*	14.2

All figures reported per 100,000. PA Department of Health. Data not displayed if total count less than 10.

Tuberculosis

The number of cases of TB in the US has continued to decline over the past few years. In 2009, there were a total of 11,545 TB cases nationwide—the lowest recorded rate since reporting started in 1953.⁷ As seen in Table 15, statewide and county-level rates of TB have continued to decline as well; in all four counties of interest, moreover, rates of TB are below the statewide rate.

Table 15. Trends in Tuberculosis, 2003-2009

	2003	2004	2005	2006	2007	2008
Nation	5.1	4	4.8	4.6	4.4	4.2
PA	2.7	2.6	2.6	2.7	2.2	3.1
Bucks	2.1	2.9	2.9	1.9	2.4	3.1
Lehigh	*	*	*	3.9	*	3.8

* Count is fewer than 10 cases.

Hepatitis A & B

According to the CDC, there were 4519 cases of acute Hepatitis B in the US in 2007—equal to a rate of 1.5 per 100,000—the lowest rate ever recorded. Incidence of acute Hepatitis B in the state of PA generally follows national trends; over 2006-2008 period, the average annual rate of incidence for acute Hepatitis B in the states was 1.4. Table 16 lists county rates of acute Hepatitis B for the same period. Lehigh County has a statistically significant higher rate of acute Hepatitis B than the state as a whole.

Table 16. Average Annual Rate (per 100,000) for Acute Hepatitis B, 2006-2008

Bucks	1.4
Carbon	*
Lehigh	2.9
Northampton	1.8

The situation is more complex when considering chronic Hepatitis B infections, as seen in Figure 14. The CDC estimates that there are about 800,000 to 1 million people living with chronic Hepatitis B infection.⁸ Because there is no national chronic hepatitis surveillance program, it is difficult to gain an accurate estimate. The CDC estimates that while the number of individuals with acute Hepatitis B infections has significantly declined since 1990, the number of people living with chronic HBV infection may be increasing, in part due to patterns of immigration.⁹ Populations most at risk for HBV infection include Asian Pacific Islanders (API).

The PA State Department of Health does mandate reporting of chronic Hepatitis B and according to their estimate, the average annual rate per 100,000 population of chronic Hepatitis B for 2006 through 2008 was 13.9. As shown in Figure 14, there are notable

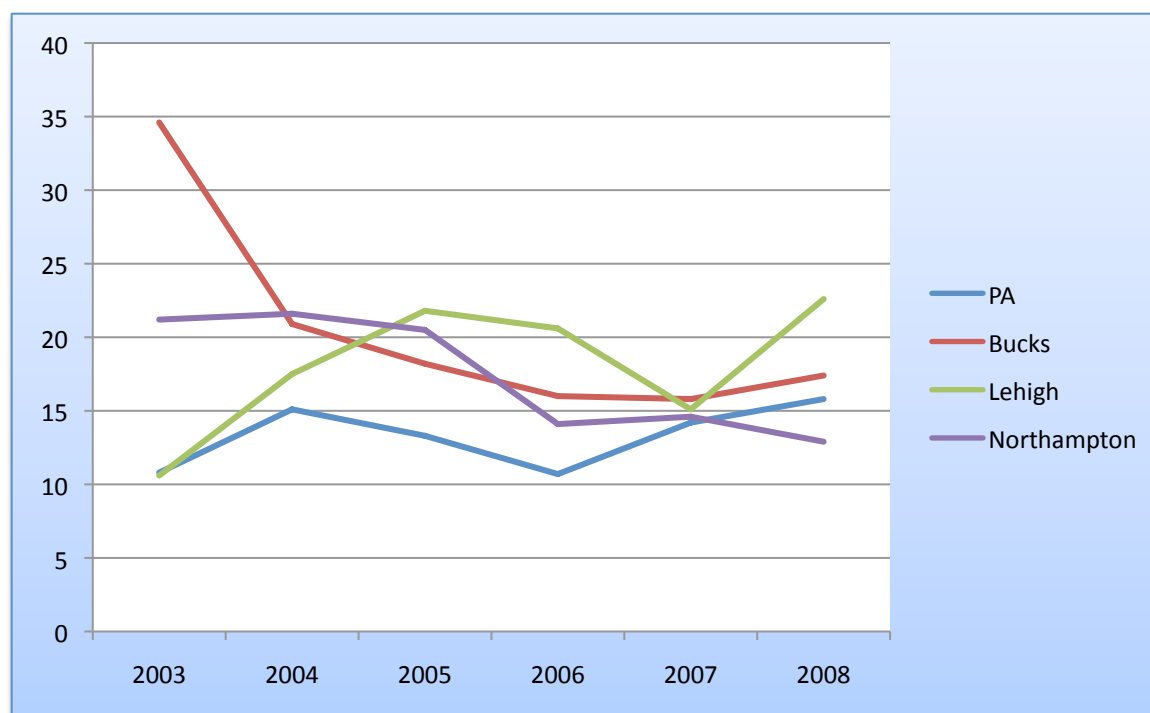
⁷ CDC, *TB Elimination*, “Trends in Tuberculosis,” 2009 (October 2010).

⁸ Colvin and Mitchell, Eds., “Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C,” Institute of Medicine of the National Academies. <http://www.nap.edu/catalog/12793.html>.

⁹ Colvin and Mitchell, Eds., “Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C,” Institute of Medicine of the National Academies. <http://www.nap.edu/catalog/12793.html>.

differences at the county level at reported levels of chronic Hepatitis B. Lehigh County has a statistically significantly higher incidence of chronic Hepatitis B than the state of Pennsylvania as a whole, 22.6 per 100,000 population in 2008 in the County compared to 15.8 per 100,000 in the state. Northampton County reported a statistically higher rate of chronic Hepatitis B recently, but since 2006, rates have been declining.

Figure 14. Chronic Hepatitis B, Rate per 1000, 2003-2008



Carbon County excluded due to insufficient number of reported cases.

Lyme's Disease

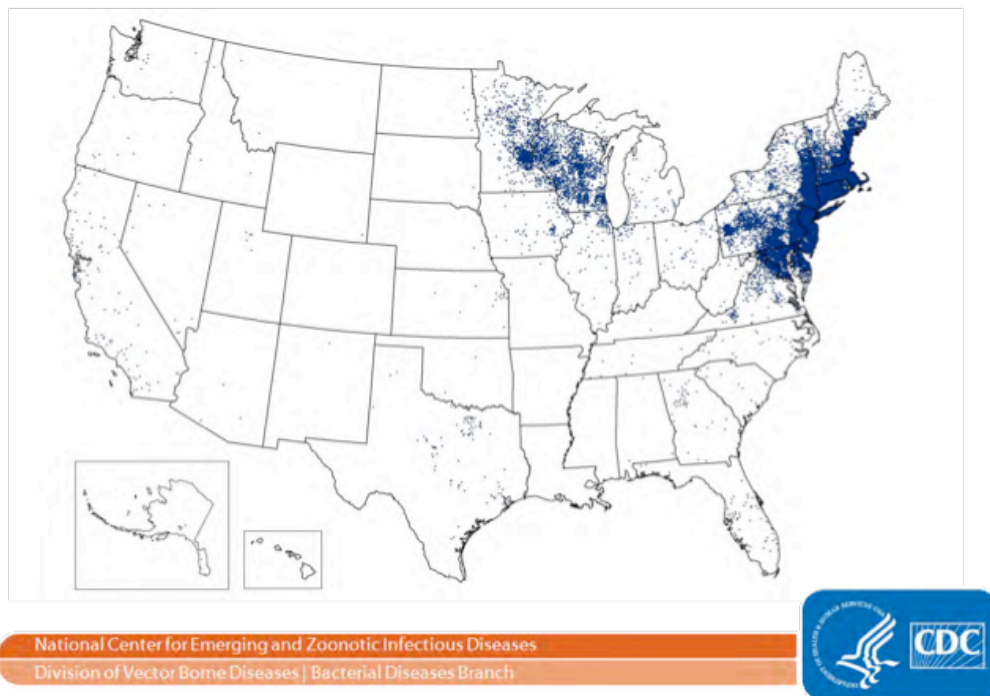
Ninety-five percent of all Lyme disease cases in 2009 were from 12 states, including Pennsylvania, New Jersey, New York, Massachusetts, Connecticut, Wisconsin, Maryland, Minnesota, New Hampshire, Delaware, Maine, and Virginia. See Figure 15 below.

Within the state of Pennsylvania, Bucks, Carbon, Lehigh and Northampton counties all report statistically higher rates of Lyme Disease incidence when compared to other counties in the state. The most recent data available at the county level is for the year 2008; according to the CDC, however, in the state as a whole, incidence of Lyme Disease increased from 32.1 in 2008 to 39.3 per 100,000 population in 2009. Recent trends at the county level, especially in Bucks and Lehigh counties, suggest that Lyme Disease incidence may also be on the increase in portions of the Lehigh Valley area.

Figure 15. Lyme Disease—a National Map, 2009

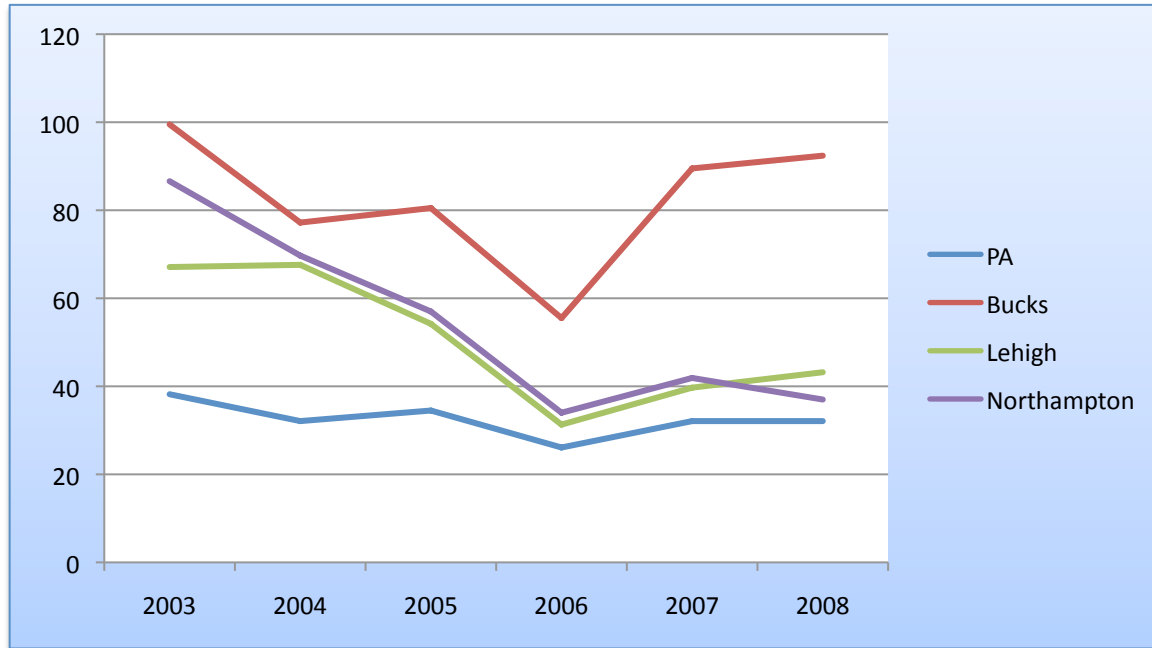
Reported Cases of Lyme Disease—United States, 2009

One dot is placed randomly within the county of residence for each confirmed case. Though Lyme disease cases have been reported in nearly every state, cases are reported based on the county of residence, not necessarily the county of infection.



Source: Reproduced from CDC Lyme Disease Data and Statistics (<http://cdc.gov/lyme/stats/index.html>). Note: Cases are reported from the infected person's county of residence, not the place where they were infected.

Figure 16. Incidence of Lyme Disease, 2003-2008

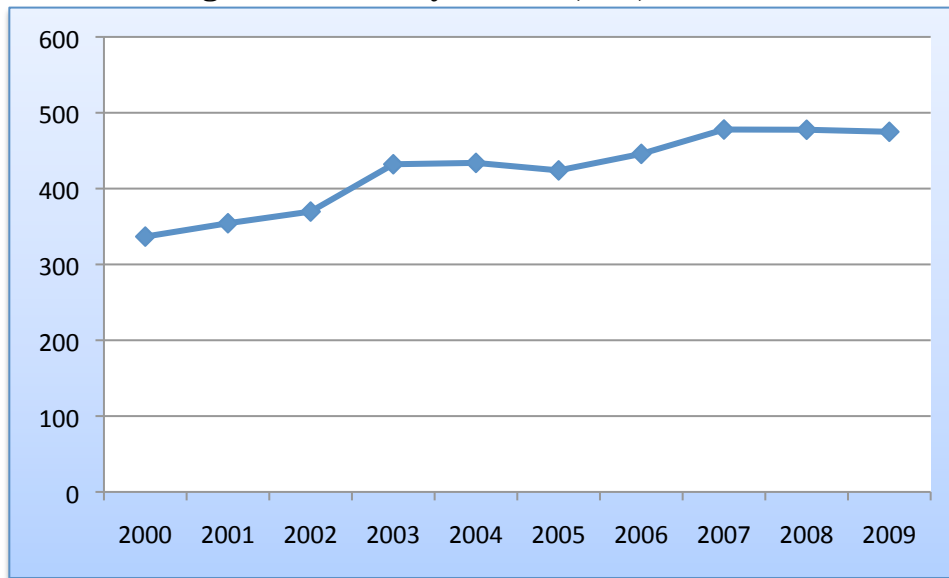


Sexually Transmitted Diseases (STDs) and HIV/AIDs

By all accounts, Chlamydia—the most commonly reported infections disease in the nation—is a growing problem in the United States and the state of Pennsylvania is no exception to this trend. There were more than ½ million cases (1,244,180) of Chlamydia reported to the CDC in 2009, the greatest number among young women and girls (ages 20 to 24 and 15 to 19).

Figure 17 shows Chlamydia rate per 100,000 women in the State of PA, 2000-2009. Accessing data on sexually transmitted diseases at the county level is difficult, particularly if one is interested in subgroups of the general population according to age, race, and or ethnic group. Tables 17-18 provide a 2008 snapshot of rates of Chlamydia including available county-level data for men and women by age and race at the state level. Data by race and ethnic group is not available at the county level, but Table 17 summarizes trends in Chlamydia in the four counties of interest by sex and age.

Figure 17. Chlamydia Rate, PA, 2000-2009



Source: CDC, Sexually Transmitted Diseases (STFS), Pennsylvania, 2007

Table 17. Rate of Sexually Transmitted Diseases per 100,000 population, 2008

Incidence of Chlamydia in PA by race and age		
Chlamydia among Men		
White Men		
All Ages	40.2	
<15	*	
15-24	176.9	
25-34	5.8	
35+	8.7	
Black Men		
All Ages	999.4	
<15	32.2	
15-24	3607.2	
25-34	1388.22	
35+	212.9	
Hispanic Men		
All Ages	302.6	
<15	*	
15-24	1099.2	
25-34	424.9	
35+	68.5	
Chlamydia among Women		
White Women		
All Ages	122.7	
<15	8.7	
15-24	710.6	
25-34	198.5	
35+	6.6	
Black Women		
All Ages	1592.4	
<15	162.0	
15-24	7467.0	
25-34	1678.6	
35+	105.3	
Hispanic Women		
All Ages	547.6	
<15	33.8	
15-24	2235.1	
25-34	654.8	
35+	56.6	

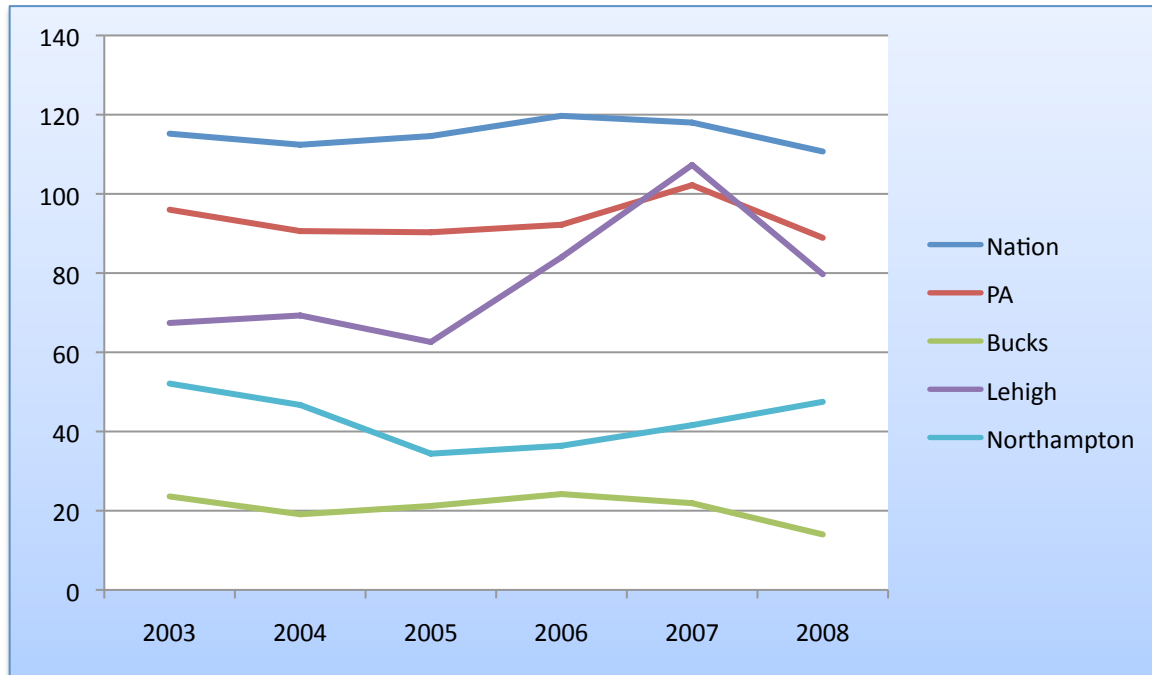
*Note * fewer than 10 cases; NA: data not available.*

Table 18. Chlamydia incidence by age and sex in PA, Bucks, Carbon, Lehigh, and Northampton Counties, 2009

	All Ages	<15	15-24	25-34	35+
PA	339.3	31.7	1726.7	540.7	32.4
Bucks	113.6	*	700.9	221.1	7.8
Carbon	67.7	*	395.4	*	*
Lehigh	384.1	32.1	2001.6	633.2	32.3
Northampton	189.3	*	918.9	324.1	11.3
	Men All Ages	Men <15	Men 15-24	Men 25-34	Men 35+
PA	193.7	6.7	857.1	36.4	32.8
Bucks	65.6	*	360.7	153.3	*
Carbon	*	*	*	*	*
Lehigh	211.4	*	948.7	406.7	36.4
Northampton	101.8	*	412.9	239.6	*
	Women All Ages	Women <15	Women 15-24	Women 25-34	Women 35+
PA	476.9	57.8	266.2	723.6	32.0
Bucks	160.2	*	1054.4	291.1	10.3
Carbon	108.7	*	625.7	*	*
Lehigh	548.1	60.9	3100.1	864.1	28.5

Following Chlamydia, gonorrhea is the most common reported infectious disease in the US. One positive note, in 2009, the number of reported cases of gonorrhea dropped 10% from the previous year across the nation as a whole. In the state of Pennsylvania, rates of gonorrhea incidence have generally declined in all areas of interest with the exception of Northampton county, which has seen approximately a 6% increase in rates of gonorrhea since 2007. It should be noted, however, that in all counties of interest, rates of gonorrhea incidence are significantly lower than statewide rates.

Figure 18. Gonorrhea, 2003-2008.



Syphilis

The number of reported cases of primary and secondary syphilis has increased nationwide in the past several years, by 11.8% from 2005 until 2006. Rates of primary and secondary syphilis among men has increased every year from 2000 through 2006; among women similar increases were observable nationwide from 2000 until 2004. The state of PA is ranked 24th among the 50 states for primary and secondary syphilis incidence with 2.7 cases per 100,000 population compared to the 2009 rate of 4.6 nationwide. For men, the rate is 4.98 per 100,000 compared to a nationwide rate of 7.8; for women, the state rate is 0.7 compared to the nationwide rate of 1.4. Unfortunately, the low rate of incidence and inability to access data makes it impossible to report primary and secondary syphilis rates at the county level.

HIV/AIDS

Overall, the prevalence of HIV cases continues to increase in the state of Pennsylvania, as reported in the PA Department of Health report, “Integrated Epidemiologic Profile of HIV/AIDS in Pennsylvania, 2009-2010.” The annual AIDS incidence, in contrast, has fallen from its highest levels in the late 1980s and early 1990s. The Department of Health’s analysis suggests that 5 counties in the state of PA are “high outcome counties”: Allegheny, Bucks, Delaware, Montgomery and Philadelphia counties. These counties had high average

annual rates of increase in HIV/AIDS prevalence ($>+6\%$) AND high background HIV prevalence rates (> 90 cases per 100,000 population) AND a general population $> 500,000$ persons. As seen in the figures reproduced from the Department of Health report below, Lehigh and Northampton counties are classified in the “middle tier” population of HIV variation. According to the PA Department of Health, individuals from racial and ethnic minority groups make up more than 60% of all persons living with HIV in the state.

Figure 19. PA Department of Health Map of HIV in PA

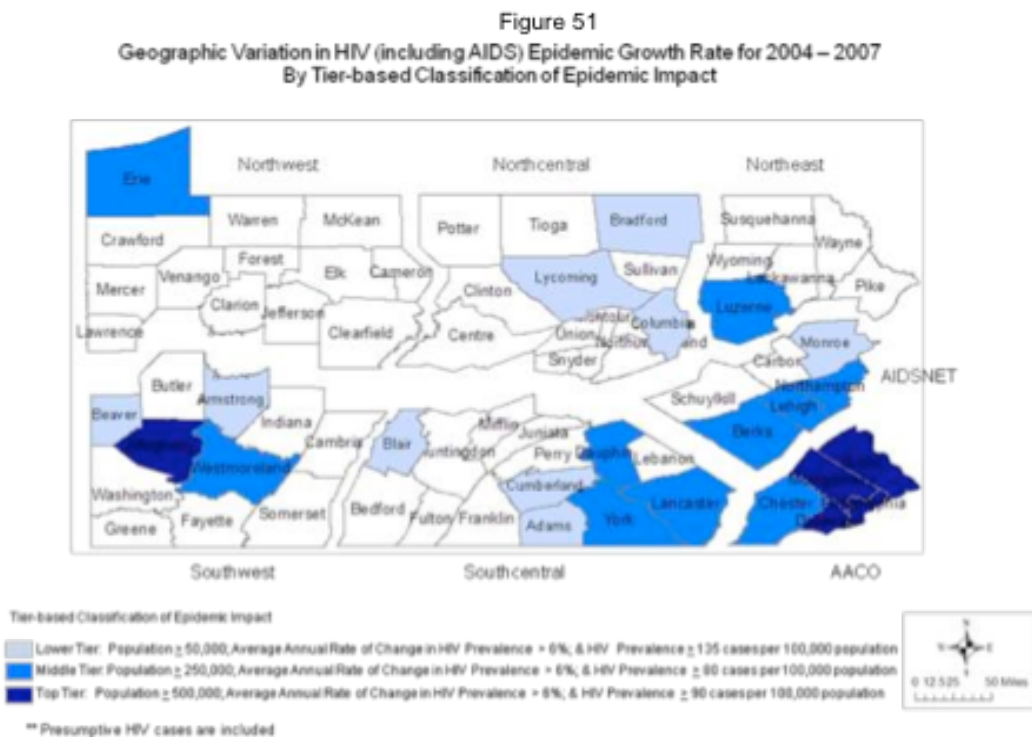
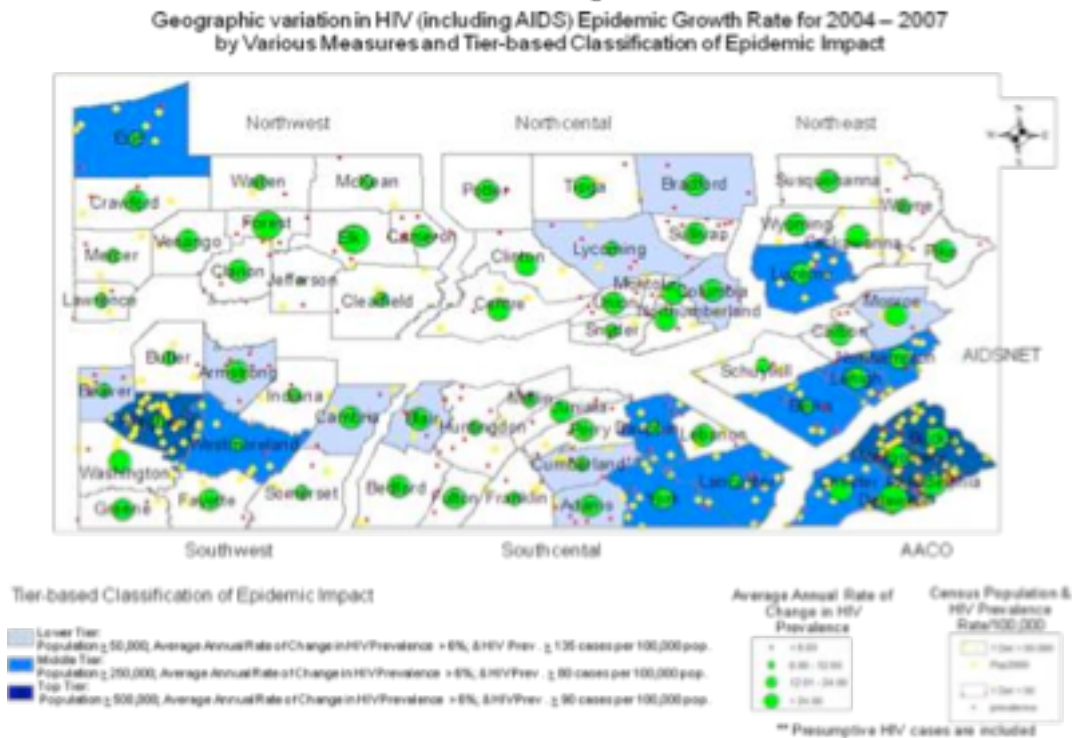
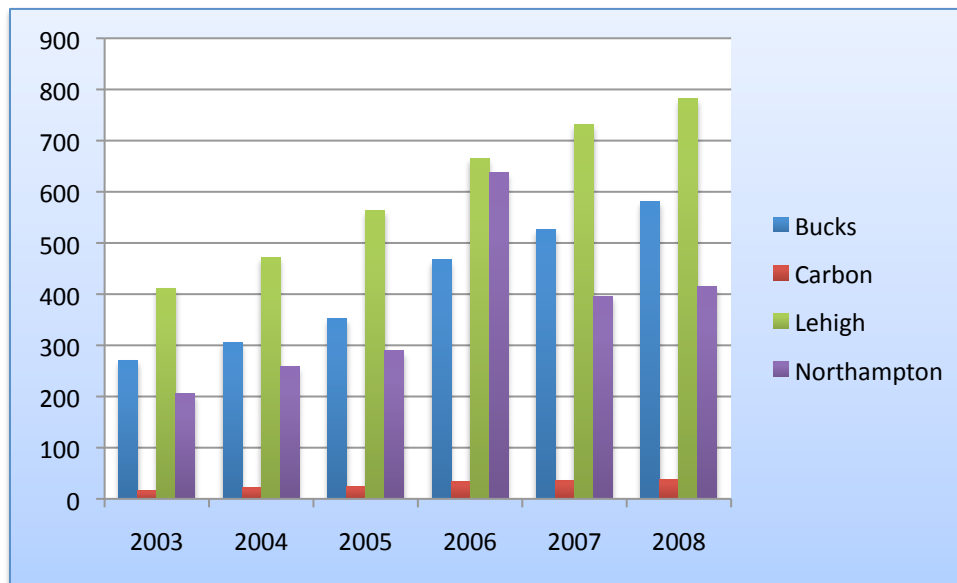


Figure 21. PA Department of Health, PA Geographic Variation in Epidemic Growth Rate for 2004-2007



After the southeastern area that includes Philadelphia County, the six county area around Lehigh Valley has the second highest prevalence of HIV. Also according to this report, recent cumulative AIDS incidence rates (as an indicator of treatment failure) were highest (>25 AIDS cases per 100,000 population) in Philadelphia, Forest, Cameron, Delaware, Huntingdon, Dauphin, Lehigh, Adams and Fulton counties; Cumulative case rate per 100,000 population during 2005-2007 were highest in (>100 cases per 100,000 population) in Philadelphia, Forest, Cameron, Huntingdon, Adams, Armstrong, Delaware, Union, Sullivan, Clarion, Elk and Lehigh counties. Finally, cumulative AIDS mortality rates were highest (>4 deaths per 100,000) in Philadelphia, Fulton, Elk, Bradford, Lehigh, Huntingdon and Armstrong counties, an indicator of the failure of antiretroviral therapy.

Figure 21. Number of Cases of Persons Living with HIV (including AIDS), 2003-2008



Cancer

Among the most notable findings among cancer data, further summarized in Table 18 are the following:

- All counties except Carbon have higher rates of cancer as compared with the state's corresponding rate, with rates in Northampton being calculated by the state as being significantly higher.
- All counties have higher rates of Melanoma of the Skin than the state's corresponding rate, with rates in Carbon and Lehigh being significantly higher.
- Bucks and Northampton counties have significantly higher rates of Prostate Gland cancer as compared with the state's corresponding rate, while Carbon County has a significantly lower rate than the state.
- All counties have higher rates of Urinary Bladder cancer as compared with the state's corresponding rate, with rates in Bucks and Northampton being significantly higher.

Overall rates of cancer are significantly *higher* for particular age groups in the following counties as compared with the state's corresponding rates:

- Bucks: 20-24, 60-64 and 85+
- Carbon: 35-39 and 85+
- Lehigh: 15-19, 80-84 and 85+

- Northampton: 75-79 and 85+

Overall rates of cancer are significantly *lower* for particular age groups in the following counties as compared with the state's corresponding rates:

- Carbon: 75-79
- Lehigh: 70-74

Additionally, in all counties, males have higher rates of cancer as compared with rates for females.

Table 18. Cancer Incidence by County, per 100,000 (2007)					
	Lehigh	Northampton	Bucks	Carbon	PA
Cancer cases (all sites)	520.2	545.3	526.4	510.7	511.7
Breast	73.1	70.6	65.6	57.9	68.1
Bronchus and Lung	64.1	65.6	71.4	74.3	71
Melanoma of the Skin	25	19.4	20	29.2	17.3
Non-Hodgkin Lymphomas	23.6	25.4	19.4	22	20.4
Prostate Gland	152.4	191.3	187	117.1	167.7
Urinary Bladder	29.5	33.3	30.7	32.9	25.6

Healthy People 2010 identified a 2010 goal cancer death rate in the four PA counties of interest at 159.9. Figure 22 illustrates the 2004-2008 actual cancer death rate in these counties in comparison. With the exception of Northampton County, which saw a slight increase from 2003-2007 to 2004-2008, cancer death rates have been declining, but not at a rate fast enough to achieve the *Healthy People 2010* goal.

Figure 22. Cancer Death Rate, 2004-2008, per 100,000

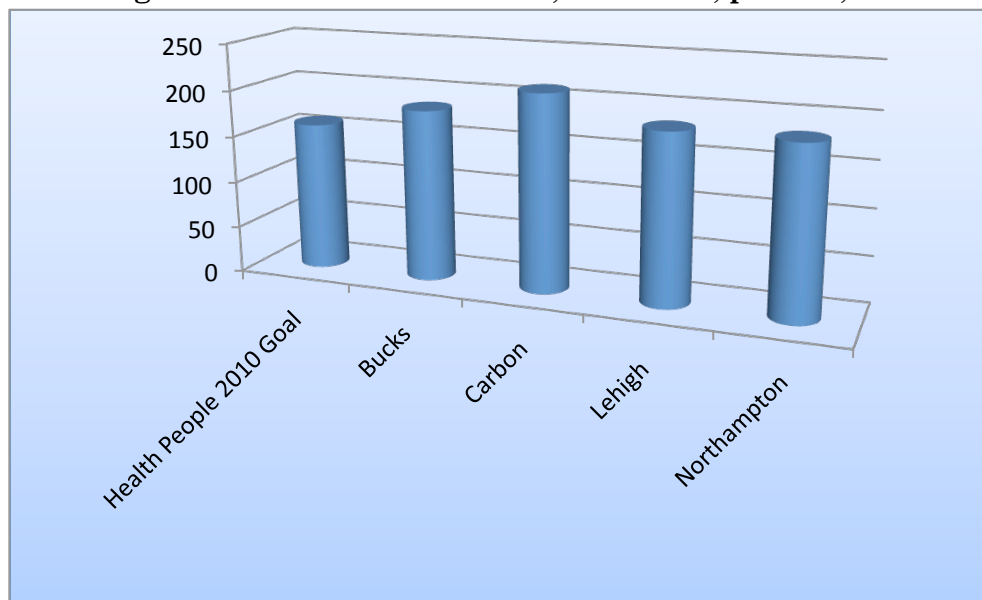


Table 19 details cancer death rates for leading types of cancer in each of the four counties of interest. The National Cancer Institute (www.cancer.gov) provides state profiles on cancer incidence and mortality. According to statistics provided there, in the state of Pennsylvania, the following types of cancer have decreased in incidence in 2004-2008: colon/rectum, leukemia, ovary, bladder, lung, non-Hodgkin lymphoma, esophagus, melanoma of the skin. In contrast, the following types of cancer have had increased incidence: brain, cervix, breast, stomach, prostate, uterus, kidney, oral, liver, and thyroid. When it comes to cancer morbidity, in the state of Pennsylvania, there has been an increase in mortality from 2003 to 2007 in the following kinds of cancer: melanoma of the skin, esophagus, uterus, pancreas, and liver.

Table 19. Leading Cancer Death Rates per 100,000 by County, 2004-2008

Lung Cancer Death Rate, 2004-2008 (Healthy People 2010 goal: 44.9)	2004-2008
Bucks	50.1
Carbon	53.0
Lehigh	48.4
Northampton	48.8
Breast Cancer Death Rate, 2004-2008 (Health People 2010 goal: 22.3)	
Bucks	25.1
Carbon	25.9
Lehigh	22.9
Northampton	22.9
Colorectal Cancer Death Rate, 2004-2008 (Healthy People 2010 goal: 13.9)	
Bucks	17.8
Carbon	22.7
Lehigh	17.2
Northampton	16.3
Prostate Cancer Death Rate, 2004-2008 (Healthy People 2010 goal: 28.8)	
Bucks	26.1
Carbon	28.2
Lehigh	24.7
Northampton	24.0
Melanoma (Skin) Cancer Death Rate, 2004-2008 (Healthy People 2010 goal: 2.5)	
Bucks	3.3
Carbon	*
Lehigh	3.0
Northampton	3.2

Additional cancer statistics are available through the PA Department of Health, which notes that the average annual age-adjusted cancer death rate for 2004-2008 among males was (241.1)—a 49% higher rate than for females (161.9). The cancer death rate for black males was the highest among all sex and race groups at 312.0 per 100,000. Overall, the annual age-adjusted death rate in the state has declined since 1999

5. ACCESS TO CARE

For the purposes of this project, “access to care” is conceptualized primarily to measure accessibility to primary care, health care specialists, emergency treatment, and access to health insurance (although it is important to note that health insurance does not guarantee adequate access to care). Following the Community Health Rankings suggestions, access may include the following: comprehensive health insurance coverage; acceptance of health insurance by providers; proximity of providers to patients; presence of primary care providers in community; adequate transportation to providers; adequate knowledge about preventive care among patients; reasonable wait times for appointment; high health literacy rates; and ability to pay deductible and/or co-pays for treatment.

In 2009, at least 45.4 million people, or 15.1% of the population, were uninsured at some point during the year. Turning to the state of Pennsylvania, recent estimates suggests that approximately 13% of all adults between the ages of 18 and 65 lacked health insurance. The number of insured adults in the four counties of interest are consistent with the statewide figure.

Table 20. Uninsured Adults Age 18-65, 2011

Bucks	12%
Carbon	13%
Lehigh	12%
Northampton	13%

Source: County Health Rankings, 2011. Data drawn from small area health insurance estimates provided to the US Census Bureau.

Further considering private insurance and medical assistance in the four counties of interest beyond the adult population, Tables 21 highlights medical assistance and CHIP enrollment data for 2010, that is, Pennsylvania’s Child Health Insurance Program that provides coverage for uninsured children and teens. As seen below, Lehigh and Bucks counties have higher rates of CHIP enrollment than do Carbon and Northampton, and all four counties have lower rates of enrollment than the statewide figure. CHIP Enrollment figures have increased, in some cases, dramatically, over the past five or six years. Estimates from a 2008 Department of Insurance survey in the state of PA suggest that approximately 3% of children in Bucks, 4% in Carbon, 3% in Lehigh, and 1% in Northampton were uninsured.

Locating reliable data on the numbers of uninsured is made more difficult by changing state and local county medical assistance program and delay in reporting data. In March of this year, for example, the state of PA discontinued the adultBasic health insurance program in which 40,000 Pennsylvanians were enrolled and an additional 328,144 were wait-listed. According to a recent report released by the PA Department of Insurance, most PA residents have primary insurance coverage through an employer, but the numbers declined between 2004 and 2008 from 65% to 61%. More than 2.2 million or 18% of PA

residents received health insurance through a government-sponsored program, according to 2008 data (see Figure 24).

Table 13. Medical Assistance Enrollment & Eligibility, 2010

	<u>Bucks</u>	<u>Carbon</u>	<u>Lehigh</u>	<u>Northampton</u>	<u>Pennsylvania</u>
CHIP Enrollment (Sept. 2010)	8,558	1,275	6,108	4,397	192,757
Medical Assistance Enrollment—Children, 2009	23,697	5,001	34,447	19,400	1,115,616
Uninsured Rate (per 100) for Children Age 0 to 18	3.0	1.0	3.0	1.0	12.0
Uninsured rate (per 100) for Adults, 2010	12.0	15.0	12.0	12.0	13.0
Eligible for Medical Assistance (all ages)	54,354 (8.7%)	9686 (15.2%)	61,530 (17.9%)	38,357 (12.8%)	2,219,392 (17.6%)

CHIP enrollment figures: <http://www.chipcoverspakids.com/about-chip/enrollment-figures/>; Medical Assistance Data: Pennsylvania Department of Public Welfare; Uninsured rate for adults: County Health Rankings Snapshot 2010

Figure 23. CHIP Enrollment, 2005-2011

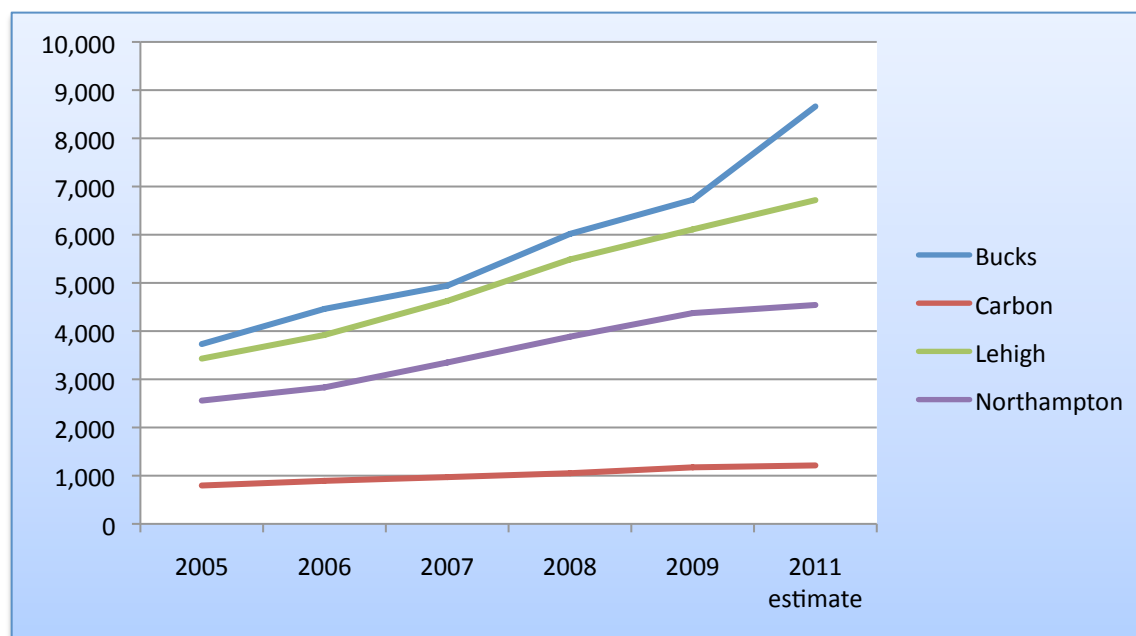
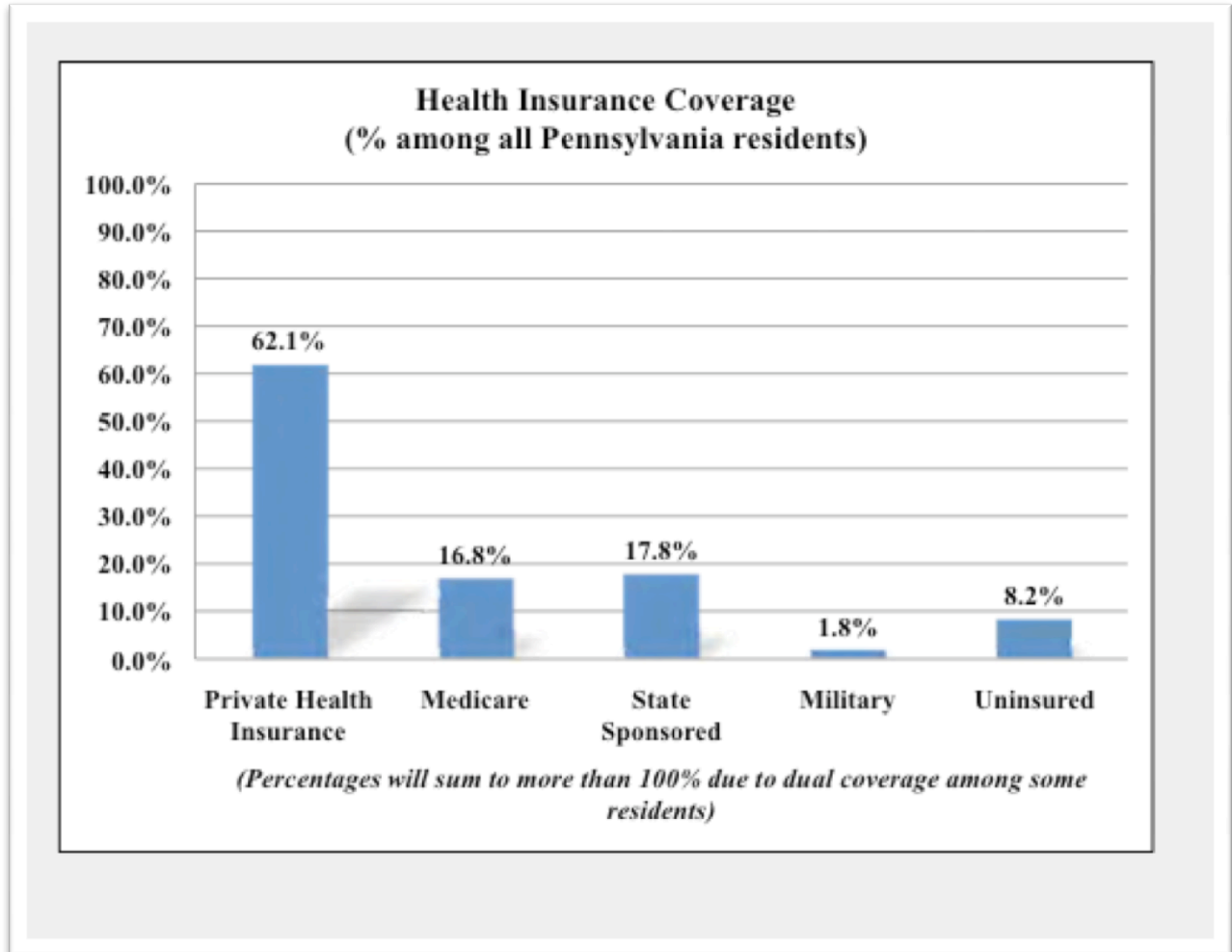


Figure 24. PA Department of Insurance, Estimates of PA Residents' Health Coverage, 2008



We report here one additional measures of access to care reported on the county health rankings report, the primary care provider rate (the companion to this report reports survey data on additional measures of access to care in the Lehigh Valley). The national benchmark, or 90th percentile, for population to primary physician ratio is 631:1. In the state of PA, that ratio is 838:1. Table 23 lists the population to primary physician ratio for the four counties of interest. It is worth noting that Lehigh County is far closer to the nationwide benchmark than the other three counties. In addition, Carbon County is almost three times the ratio of the state of PA as a whole.

Table 22. Population to Primary Physician Ratio

Bucks:	1034:1
Carbon:	2121:1
Lehigh:	689:1
Northampton:	894:1
Statewide:	838:1
National Benchmark	631:1

The Behavioral Risk Factor Surveillance System collects additional data related to access to care. For example, recent data suggest that over the two year period 2008-2010, 83% of Pennsylvanians report seeing a doctor for a routine checkup in the past 2 year. The number is roughly consistent with the approximate 13% who indicate they did not have a “personal” doctor, that is, someone they identify as their personal physician or health care provider. The BRFSS has not asked these question consistently, however, or in all counties of the state, making inference and county-wide comparisons difficult.

6. TARGED COMMUNITY DATA

This section reports secondary data on a handful of targeted factors connected to community health including, asthma, behavioral health, homelessness, child abuse, immunizations, crime, and environmental assessment measures. Most of this data was compiled using local data drawn from the Behavioral Risk Factors Surveillance System (BRFSS). One unfortunate complication of using the BRFSS results from insufficient coverage of local areas and counties from year to year. The data that follows combines available BRFSS data across multiple years in an effort to understand behavior health factors across all four counties of interest.

Alcohol and Tobacco Use

According to BRFSS data, 20% of all Pennsylvanians indicate that they smoke and an additional 29% report that they are former smokers. Adults ages 18 to 64, adults with lower levels of education, and adults with lower household incomes have the highest rates of smoking. In addition, Blacks comprise a significantly higher percentage of smokers (28%) than do whites (19%) and Hispanics (13%). Table 23 provides an approximate county level comparison among adults who indicate they are current smokers, but it is not possible to completely disaggregate the data.

Table 23. Adult Tobacco Use in Carbon/Lehigh/Northampton Counties*, Bucks County, and PA, 2007-2009

		C/L/N Counties	Bucks County	PA
Adults who are current smokers		19%	18%	21%
Age	18-44	22%	24%	26%
	45-64	20%	15%	20%
	> 65	10%	8%	9%
Education	High School	26%	17%	27%
	Some College	16%	22%	21%
	College	9%	9%	10%
Income	LT \$25,000	31%	18%	31%
	\$25,000-49,999	19%	18%	21%
	GE \$50,000	15%	14%	15%

For state-level data, figures are available for single years, with 2009 being the most recent. Data for counties and metropolitan areas is only available in 3-year sums, with 2007-2009 being the most recent. Pennsylvania Department of Health EpiQMS 2007-2009

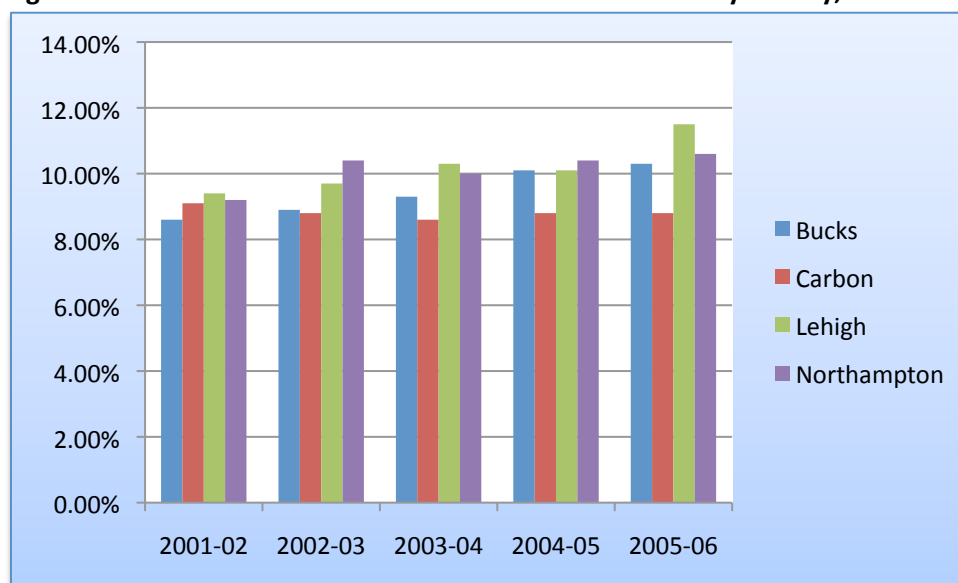
Alcohol consumption is another important area of behavioral health risk assessment. In the state of PA, 17% of adults admitted to binge drinking in 2009 (that is, 5 or more alcoholic drinks on one occasion for men and four or more for women). In Bucks County, this figure is 15%. In the combined counties of Lehigh, Northampton, and Carbon, this figure is 15%.

Asthma

Thirteen percent of adults on PA reported that they have been told they have asthma and 9% report having it currently—both of these figures are higher than national averages. Women are significantly more likely to report being told they have had asthma than are men, at 15% to 12% respectively; likewise, women are more likely to report currently suffering from asthma (11%) compared to men (7%). Adults in the ages of 18 to 29 are the most likely to report having asthma statewide. More than one-half of adults report that they were first diagnosed with asthma as children. Adults with lower incomes report higher levels of asthma when compared to adults in higher incomes. According to the 2007 Pennsylvania Asthma Focus Report, the number of adults diagnosed with asthma has been increasing since the early part of the 21st century. Among school age children, the prevalence of asthma has increased steadily, from 6.6% in 1997 to 9.8% in 2003.

At the county level, asthma data is collected through the BRFSS system and made available through the PA Asthma Surveillance System. Additional data about the prevalence of school age children is reported by health district; this data is summarized in Figure 25.

Figure 25. Lifetime Asthma Prevalence in School Children by County, 2001-2006

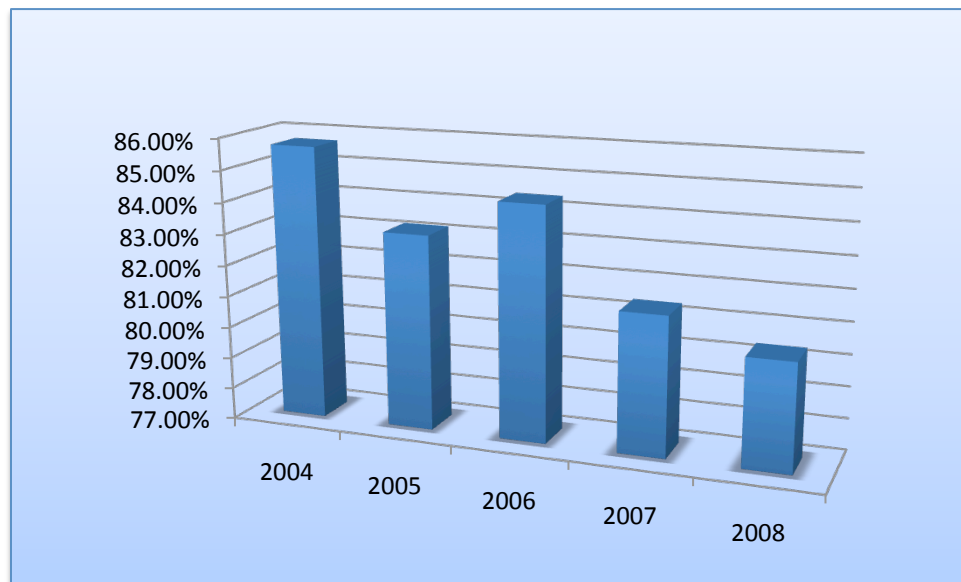


Source: 2009 PA Burden of Asthma Report

Childhood Immunizations

Statewide data on full immunization suggests that the percentages of fully immunized children has declined over the past several years. Most recent figures provided by the PA Department of Health suggest that in 2008, 80.4% were fully immunized, compared to close to 85.7% in 2004. Immunization data is not easily available at the county-level.

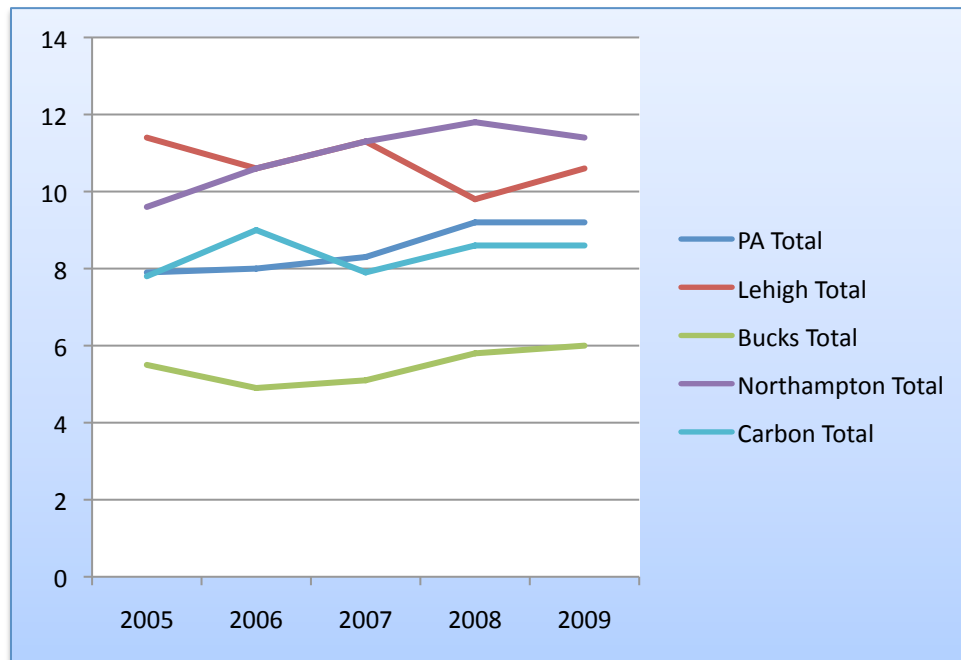
Figure 26. Immunization of PA Children, 2004-2008



Child Abuse

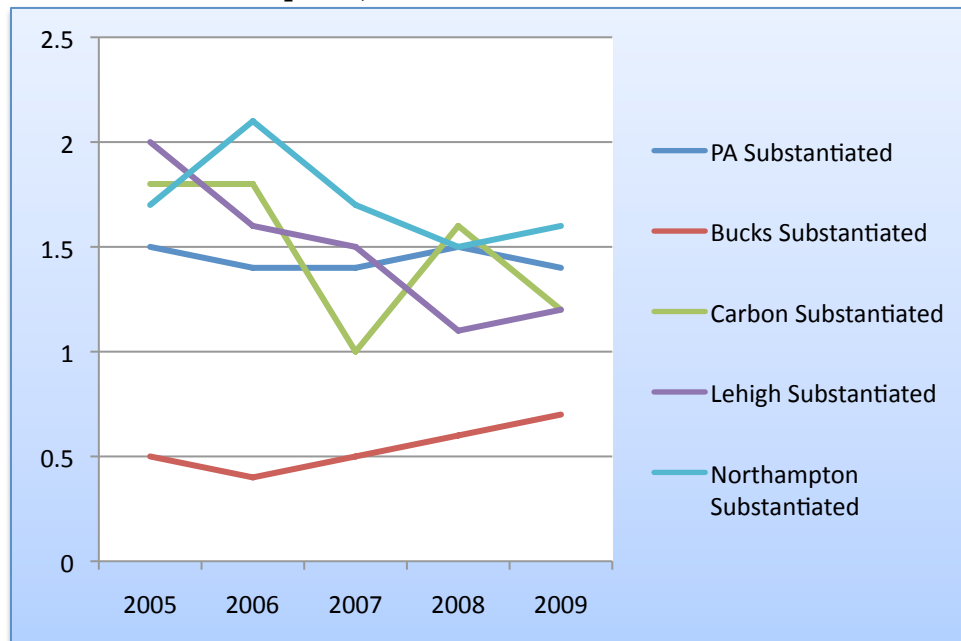
Figures 27 and 28 show rates of reported and substantiated child abuse in the state of PA and in the four counties of interest drawn from data made available in annual child abuse reports from the Department of Public Welfare. As seen in these figures, rates of reported child abuse have generally increased over time. Rates of substantiated child abuse are more mixed; in Northampton and Bucks counties, rates of substantiated child abuse have increased in the past 5 years but have generally decreased statewide and in Lehigh and Bucks counties.

Figure 27. Reported Rates of Child Abuse, 2005-2009, per 1,000 children under 18



Source: Department of Public Welfare, Annual Child Abuse Reports.

Figure 28. Substantiated Rates of Child Abuse, 2005-2009, per 1,000 children under 18



Source: Department of Public Welfare, Annual Child Abuse Reports

Environmental Assessment

Environmental factors are clearly related to community health. In this section, we report regional measures of air quality. According to the most recent State of the Lehigh Valley report (2010), the EPA measures air quality in several areas in the Lehigh Valley, including Allentown, Easton, and Freemansburg Borough. Using a composite measure of particles unhealthy to human provides an overall measure of air quality. For example, according to the EPA, the number of unhealthy air quality days in Lehigh County decreased from 2000 to 2009. It is important in this context to consider specific vulnerable populations, that is, individuals with particular health concerns and active-outdoor individuals. The number of unhealthy days for people with asthma, for instance, differs from the number of unhealthy days for people with heart disease and from older adults

To fill in this picture a bit further, information was gathered from the PA Department of Health and the Environmental Public Health Tracking Network. This data is not available for Carbon County. In the other three counties of interest, the numbers of days exceeding ozone standard and particulate standards have decreased fairly consistently over the past several years.

Figure 29. Number of Days Exceeding Ozone Standard, 2002-2006

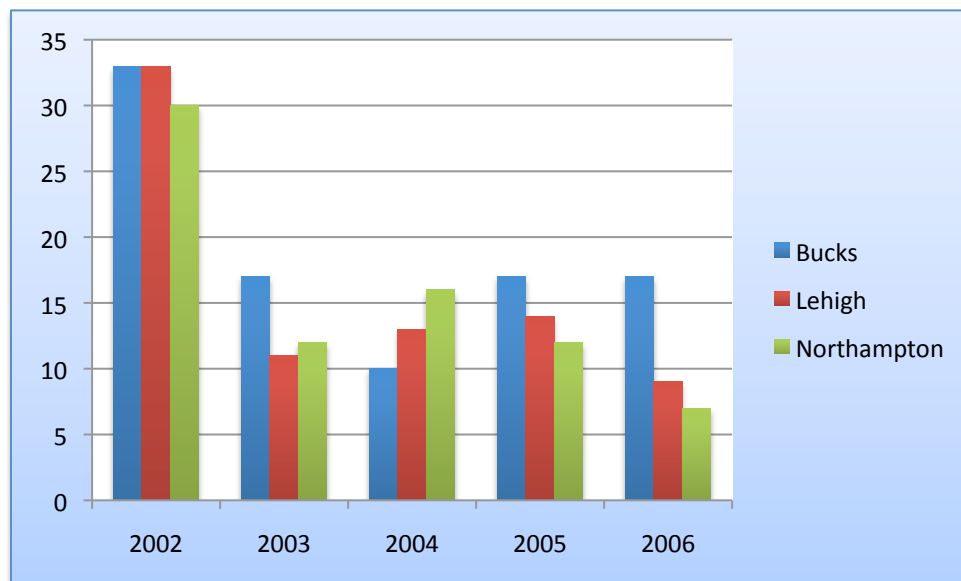
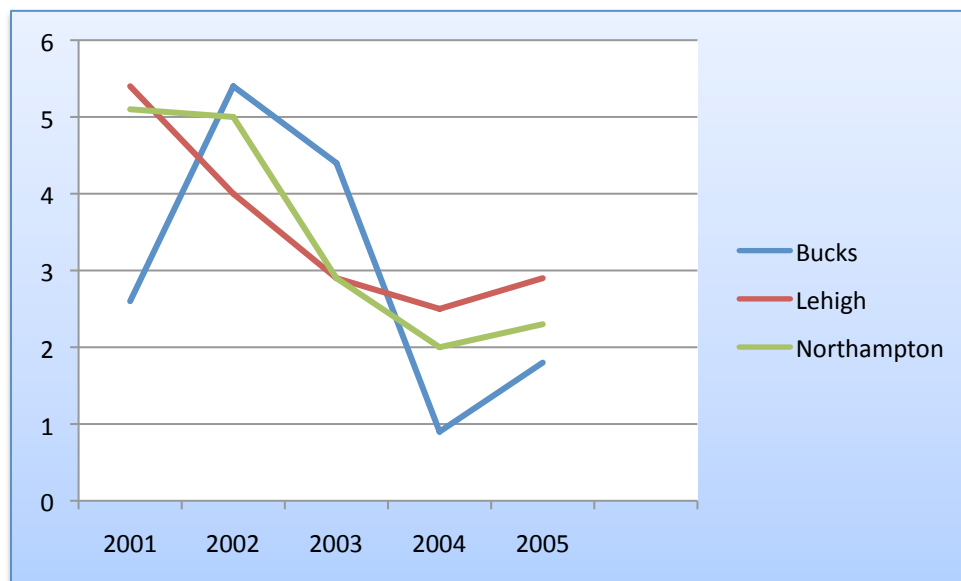


Figure 30. Number of Days Exceeding Particulate Standard, 2001-2005



Appendix A

The following are county health rankings provided by the Robert Wood Johnson Foundation, for the Pennsylvania counties of Bucks, Carbon, Lehigh, and Northampton. Additional information available at: www.countyhealthrankings.org

County Health Rankings Bucks, Pennsylvania

Mobilizing Action Toward Community Health

HEALTH OUTCOMES	BUCKS COUNTY	ERROR MARGIN	NATIONAL BENCHMARK	PENNSYLVANIA	RANK (OF 67)
6					

Mortality

Premature death — Years of potential life lost before age 75 per 100,000 population (age-adjusted)	5,714	5,489-5,926	5,564	7,411	5
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Morbidity

Poor or fair health — Percent of adults reporting fair or poor health (age-adjusted)	11%	9-13%	10%	14%	13
Poor physical health days — Average number of physically unhealthy days reported in past 30 days (age-adjusted)	2.8	2.4-3.1	2.6	3.5	
Poor mental health days — Average number of mentally unhealthy days reported in past 30 days (age-adjusted)	3.2	2.8-3.6	2.3	3.6	
Low birthweight — Percent of live births with low birthweight (< 2500 grams)	7.2%	7.0-7.4%	6.0%	8.2%	

HEALTH FACTORS

Health Behaviors

Adult smoking — Percent of adults that report smoking ≥ 100 cigarettes and currently smoking	18%	16-21%	15%	22%	3
Adult obesity — Percent of adults that report a BMI ≥ 30	24%	21-28%	25%	28%	
Excessive drinking — Binge plus heavy drinking	19%	17-22%	8%	18%	
Motor vehicle crash death rate — Motor vehicle crash deaths per 100,000 population	12	11-13	12	13	
Sexually transmitted infections — Chlamydia rate per 100,000 population	114		83	340	
Teen birth rate — Teen birth rate per 1,000 female population, ages 15-19	14	13-14	22	31	

Clinical Care

Uninsured adults — Percent of population under age 65 without health insurance	12%	10-14%	13%	13%	18
Primary care physicians — Ratio of population to primary care physicians	1,034:1		631:1	838:1	
Preventable hospital stays — Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	76	75-78	52	76	
Diabetic screening — Percent of diabetic Medicare enrollees that receive HbA1c screening	85%	80-90%	89%	84%	
Mammography screening — Percent of female Medicare enrollees that receive mammography screening	62%	58-67%	74%	65%	

Social & Economic Factors

High school graduation — Percent of ninth grade cohort that graduates in 4 years	93%		92%	83%	3
Some college — Percent of adults aged 25-44 years with some post-secondary education	68%		68%	58%	
Unemployment — Percent of population age 16+ unemployed but seeking work	7.2%		5.3%	8.1%	
Children in poverty — Percent of children under age 18 in poverty	7%	5-8%	11%	17%	
Inadequate social support — Percent of adults without social/emotional support	21%	18-24%	14%	21%	
Children in single-parent households — Percent of children that live in household headed by single parent	18%		20%	31%	
Violent crime rate — Violent crime rate per 100,000 population	158		100	419	

Physical Environment

Air pollution-particulate matter days — Annual number of unhealthy air quality days due to fine particulate matter	5		0	10	52
Air pollution-ozone days — Annual number of unhealthy air quality days due to ozone	14		0	8	
Access to healthy foods — Healthy food outlets include grocery stores and produce stands/farmers' markets	68%		92%	57%	
Access to recreational facilities — Rate of recreational facilities per 100,000 population	14		17	12	

* 90th percentile, i.e., only 10% are better
Note: Blank values reflect unreliable or missing data

Source URL: <http://www.countyhealthrankings.org/pennsylvania/bucks>



County Health Rankings

Carbon, Pennsylvania

Mobilizing Action Toward Community Health

CARBON
COUNTY
MARGIN
BENCHMARK
PENNSYLVANIA
RANK
(OF 67)

HEALTH OUTCOMES

Maternity

Premature death — Years of potential life lost before age 75 per 100,000 population (age-adjusted)

8,453 7,622-9,284 5,564 7,411 61

Morbidity

Poor or fair health — Percent of adults reporting fair or poor health (age-adjusted)

15% 11-20% 10% 14% 45

Poor physical health days — Average number of physically unhealthy days reported in past 30 days (age-adjusted)

3.8 2.8-4.9 2.6 3.5

Poor mental health days — Average number of mentally unhealthy days reported in past 30 days (age-adjusted)

4.3 3.3-5.3 2.3 3.6

Low birthweight — Percent of live births with low birthweight (< 2500 grams)

7.5% 6.7-8.3% 6.0% 8.2% 53

HEALTH FACTORS

Health Behaviors

Adult smoking — Percent of adults that report smoking \geq 100 cigarettes and currently smoking

30% 24-37% 15% 22% 62

Adult obesity — Percent of adults that report a BMI \geq 30

29% 23-36% 25% 28% 62

Excessive drinking — Binge plus heavy drinking

17% 11-26% 8% 18% 62

Motor vehicle crash death rate — Motor vehicle crash deaths per 100,000 population

24 19-28 12 13 62

Sexually transmitted infections — Chlamydia rate per 100,000 population

68 32-83 83 340 62

Teen birth rate — Teen birth rate per 1,000 female population, ages 15-19

32 29-35 22 31 62

Clinical Care

Uninsured adults — Percent of population under age 65 without health insurance

13% 11-16% 13% 13% 53

Primary care physicians — Ratio of population to primary care physicians

2,121:1 631:1 838:1 62

Preventable hospital stays — Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees

91 87-95 52 76 62

Diabetic screening — Percent of diabetic Medicare enrollees that receive HbA1c screening

84% 75-92% 86% 84% 62

Mammography screening — Percent of female Medicare enrollees that receive mammography screening

61% 52-70% 74% 65% 62

Social & Economic Factors

High school graduation — Percent of ninth grade cohort that graduates in 4 years

89% 89% 92% 83% 40

Some college — Percent of adults aged 25-44 years with some post-secondary education

49% 49% 68% 58% 40

Unemployment — Percent of population age 16+ unemployed but seeking work

10.1% 10.1% 5.3% 8.1% 40

Children in poverty — Percent of children under age 18 in poverty

17% 13-21% 11% 17% 40

Inadequate social support — Percent of adults without social/emotional support

21% 15-29% 14% 21% 40

Children in single-parent households — Percent of children that live in household headed by single parent

28% 28% 20% 31% 40

Violent crime rate — Violent crime rate per 100,000 population

309 309 100 419 40

Physical Environment

Air pollution-particulate matter days — Annual number of unhealthy air quality days due to fine particulate matter

0 0 0 10 5

Air pollution-ozone days — Annual number of unhealthy air quality days due to ozone

2 0 0 8 5

Access to healthy foods — Healthy food outlets include grocery stores and produce stands/farmers' markets

89% 89% 92% 57% 5

Access to recreational facilities — Rate of recreational facilities per 100,000 population

9 9 17 12 5

* 90th percentile, i.e., only 10% are better
Note: Blank values reflect unreliable or missing data

Source URL: <http://www.countyhealthrankings.org/pennsylvania/carbon>



County Health Rankings

Lehigh, Pennsylvania

Mobilizing Action Toward Community Health

LEHIGH COUNTY
NATIONAL BENCHMARK
PENNsylvania RANK OF 67

HEALTH OUTCOMES

Mortality

Premature death — Years of potential life lost before age 75 per 100,000 population (age-adjusted)

6,599 6,280-6,918 5,564 7,411

Morbidity

Poor or fair health — Percent of adults reporting fair or poor health (age-adjusted)

11% 9-14% 10% 14%

Poor physical health days — Average number of physically unhealthy days reported in past 30 days (age-adjusted)

3.7 3.0-4.4 2.6 3.5

Poor mental health days — Average number of mentally unhealthy days reported in past 30 days (age-adjusted)

3.2 2.7-3.7 2.3 3.6

Low birthweight — Percent of live births with low birthweight (< 2500 grams)

8.3% 8.0-8.6% 6.0% 8.2%

HEALTH FACTORS

Health Behaviors

Adult smoking — Percent of adults that report smoking \geq 100 cigarettes and currently smoking

24% 20-27% 15% 22%

Adult obesity — Percent of adults that report a BMI \geq 30

27% 23-31% 25% 28%

Excessive drinking — Binge plus heavy drinking

18% 15-21% 8% 18%

Motor vehicle crash death rate — Motor vehicle crash deaths per 100,000 population

12 10-13 12 13

Sexually transmitted infections — Chlamydia rate per 100,000 population

364 36-39 83 340

Teen birth rate — Teen birth rate per 1,000 female population, ages 15-19

38 36-39 22 31

Clinical Care

Uninsured adults — Percent of population under age 65 without health insurance

12% 10-15% 13% 13%

Primary care physicians — Ratio of population to primary care physicians

689:1 631:1 838:1

Preventable hospital stays — Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees

68 66-70 52 76

Diabetic screening — Percent of diabetic Medicare enrollees that receive HbA1c screening

84% 80-89% 89% 84%

Mammography screening — Percent of female Medicare enrollees that receive mammography screening

66% 61-71% 74% 65%

Social & Economic Factors

High school graduation — Percent of ninth grade cohort that graduates in 4 years

83% 82% 83%

Some college — Percent of adults aged 25-44 years with some post-secondary education

60% 68% 58%

Unemployment — Percent of population age 16+ unemployed but seeking work

8.8% 5.3% 8.1%

Children in poverty — Percent of children under age 18 in poverty

16% 13-18% 11% 17%

Inadequate social support — Percent of adults without social/emotional support

17% 14-21% 14% 21%

Children in single-parent households — Percent of children that live in household headed by single parent

31% 20% 31%

Violent crime rate — Violent crime rate per 100,000 population

366 100 419

Physical Environment

Air pollution-particulate matter days — Annual number of unhealthy air quality days due to fine particulate matter

3 0 10

Air pollution-ozone days — Annual number of unhealthy air quality days due to ozone

9 0 8

Access to healthy foods — Healthy food outlets include grocery stores and produce stands/farmers' markets

68% 92% 57%

Access to recreational facilities — Rate of recreational facilities per 100,000 population

13 17 12

* 90th percentile, i.e., only 10% are better
Note: Blank values reflect unreliable or missing data

Source URL: <http://www.countyhealthrankings.org/pennsylvania/lehigh>

County Health Rankings

Northampton, Pennsylvania

Mobilizing Action Toward Community Health

	NORTHAMPTON COUNTY	ERROR MARGIN	NATIONAL BENCHMARK	PENNSYLVANIA	RANK (OF 67)
HEALTH OUTCOMES					27

Mortality					9
Premature death — Years of potential life lost before age 75 per 100,000 population (age-adjusted)	6,024	5,698-6,351	5,564	7,411	
Morbidity					60
Poor or fair health — Percent of adults reporting fair or poor health (age-adjusted)	16%	13-21%	10%	14%	
Poor physical health days — Average number of physically unhealthy days reported in past 30 days (age-adjusted)	3.7	2.7-4.7	2.6	3.5	
Poor mental health days — Average number of mentally unhealthy days reported in past 30 days (age-adjusted)	3.8	2.8-4.9	2.3	3.6	
Low birthweight — Percent of live births with low birthweight (< 2500 grams)	8.7%	8.4-9.1%	6.0%	8.2%	
HEALTH FACTORS					10
Health Behaviors					10
Adult smoking — Percent of adults that report smoking >= 100 cigarettes and currently smoking	17%	15-20%	15%	22%	
Adult obesity — Percent of adults that report a BMI >= 30	29%	25-33%	25%	28%	
Excessive drinking — Binge plus heavy drinking	17%	13-20%	8%	16%	
Motor vehicle crash death rate — Motor vehicle crash deaths per 100,000 population	12	10-13	12	13	
Sexually transmitted infections — Chlamydia rate per 100,000 population	189		83	340	
Teen birth rate — Teen birth rate per 1,000 female population, ages 15-19	24	23-25	22	31	
Clinical Care					26
Uninsured adults — Percent of population under age 65 without health insurance	13%	10-15%	13%	13%	
Primary care physicians — Ratio of population to primary care physicians	894:1		631:1	838:1	
Preventable hospital stays — Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	74	72-76	52	76	
Diabetic screening — Percent of diabetic Medicare enrollees that receive HbA1c screening	82%	77-86%	89%	84%	
Mammography screening — Percent of female Medicare enrollees that receive mammography screening	64%	59-69%	74%	65%	
Social & Economic Factors					11
High school graduation — Percent of ninth grade cohort that graduates in 4 years	89%		92%	83%	
Some college — Percent of adults aged 25-44 years with some post-secondary education	62%		68%	59%	
Unemployment — Percent of population age 16+ unemployed but seeking work	8.5%		5.3%	8.1%	
Children in poverty — Percent of children under age 18 in poverty	12%	9-14%	11%	17%	
Inadequate social support — Percent of adults without social/emotional support	22%	18-27%	14%	21%	
Children in single-parent households — Percent of children that live in household headed by single parent	28%		20%	31%	
Violent crime rate — Violent crime rate per 100,000 population	206		100	419	
Physical Environment					34
Air pollution-particulate matter days — Annual number of unhealthy air quality days due to fine particulate matter	7		0	10	
Air pollution-ozone days — Annual number of unhealthy air quality days due to ozone	7		0	8	
Access to healthy foods — Healthy food outlets include grocery stores and produce stands/farmers' markets	84%		92%	57%	
Access to recreational facilities — Rate of recreational facilities per 100,000 population	10		17	12	

* 90th percentile, i.e., only 10% are better
Note: Blank values reflect unreliable or missing data

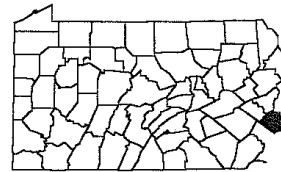
Source URL: <http://www.countyhealthrankings.org/pennsylvania/northampton>

Appendix B

The following are PA Department of Health, Health Profiles 2010 for PA, Lehigh County, Northampton County, Bucks County, and Carbon County.

Bucks County

Health Profile 2010



• DEMOGRAPHIC DATA

% Population Change 2000 to 2008	4.0	% Population with Income Below Poverty Level (2008)	5.1
Median Age of the Population (2008)	40.3	Per Capita Personal Income (2008)	\$50,983
% Population Aged 65 and Over (2008)	13.9	% Labor Force Unemployed (Annual Average 2009)	7.0
% Population Urban (2000)	90.0	% Population Eligible for Medical Assistance (12/09)	8.2

Estimated Population by Age and Sex (2008)

Age	Total	Male	Female	Age	Total	Male	Female
All Ages	621,643	306,426	315,217	35-44	93,209	46,515	46,694
Under 5	36,222	18,437	17,785	45-54	100,609	50,128	50,481
5-14	83,197	42,083	41,114	55-64	77,160	37,828	39,332
15-24	72,911	37,155	35,756	65-74	47,399	22,502	24,897
25-34	71,902	36,522	35,380	75+	39,034	15,256	23,778

• NATALITY and REPORTED PREGNANCIES^ (2008 Residents)

Crude Birth Rate Per 1,000 Population	10.6	% Low Birth Weight	7.1
Average Annual General Fertility Rate (2006-2008)	56.9	% Receiving No Prenatal Care in First Trimester	14.4
		% Births to Mothers Under 18	1.0

Age of Woman	Reported Pregnancies	Outcome			Age of Woman	Reported Pregnancies	Outcome		
		Live Births	Fetal Deaths	Induced Abortions			Live Births	Fetal Deaths	Induced Abortions
All Ages	7,989	6,592	59	1,338	18-19	358	219	2	137
Under 15	5	1	0	4	20-29	3,483	2,712	23	748
15-17	127	66	2	59	30 and Over	3,997	3,576	31	390

Age of Woman	Birth Rate	Reported Pregnancy Rate	Age of Woman	Birth Rate	Reported Pregnancy Rate
All Ages	55.9 **	67.8	18-19	28.7	46.9
Under 15	ND.	ND	20-29	83.5	107.3
15-17	5.2	10.1	30-49	39.3	43.9

^Live births, fetal deaths of 16+ weeks gestation, and induced abortions performed in-state. *Asian/Pacific Islander **General fertility rate (ages 15-44).
Notes: All ages includes any unknown ages. All rates per 1,000.

• MORBIDITY (Residents)

Reported Incidence and Average Annual Rate (per 100,000) for Selected Notifiable Diseases (2006-2008)

	Total	Rate		Total	Rate		Total	Rate
AIDS	79	4.2	Hep. B* Acute	26	1.4	Salmonellosis	290	15.5
Campylobacteriosis	225	12.1	Hep. B* Chronic	306	16.4	Shigellosis	27	1.4
Chlamydia	2,075	111.2	Lyme Disease	1,414	75.8	Syphilis	33	1.8
Giardiasis	118	6.3	Meningococcal**	6	ND	Tuberculosis	46	2.5
Gonorrhea	374	20.0	Pertussis	152	8.2	Varicella	650	34.8
Hepatitis: Type A	16	0.9	Rabies (Animals)	40	N/A			

*Hepatitis: Type B **Meningococcal Disease N/A=Not Applicable

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **CANCER INCIDENCE (2005-2007 Residents)**

Invasive Cancer Incidence and Average Annual Age-Adjusted Rates* for Major Sites by Sex

	Male		Female			Male		Female	
	Total	Rate	Total	Rate		Total	Rate	Total	Rate
All Sites	5,450	601.6	5,076	458.5	Urinary Bladder	409	50.5	134	12.0
Prostate	1,683	172.7	-	-	Corpus and Uterus, NOS	-	-	338	29.6
Female Breast	-	-	1,436	129.1	Non-Hodgkin Lymphoma	203	22.5	211	19.0
Lung and Bronchus	704	80.6	667	59.2	Kidney and Renal Pelvis	235	24.6	138	12.4
Colon and Rectum	520	59.4	543	48.5	Melanoma of the Skin	203	21.7	223	20.6

*Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.
 Note: All in situ cases, except for urinary bladder, are excluded.

• **MORTALITY (2008 Residents)**

Number of Resident Deaths	4,964	Number of Infant Deaths (< 1 Year of Age)	All Races 29
Crude Death Rate per 1,000	8.0	Infant Mortality Rate per 1,000 Live Births	4.4
Age-Adjusted Death Rate per 1,000	7.2	Average Annual Infant Mortality Rate (2006-2008)	4.2

Selected Major Causes of Death, Number and Average Annual Age-Adjusted Death Rate* (2006-2008)

Cause	Total	Rate	Cause	Total	Rate
Diseases of Heart	3,407	183.4	Alzheimer's Disease	343	19.5
Cancer	3,597	178.4	Diabetes Mellitus	347	17.6
Stroke	871	47.5	Nephritis/Nephrosis	323	17.5
C.L.R.D.**	756	39.8	Influenza/Pneumonia	270	14.8
Accidents	663	36.0	Septicemia	289	14.9

* Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.

** Chronic Lower Respiratory Disease

Leading Causes of Death, Number by Age Group (2008)

Under 5 Years of Age		5-24 Years of Age		25-44 Years of Age		45-64 Years of Age		65 Years and Older	
Perinatal Conditions	16	Accidents	37	Accidents	47	Cancer	281	Diseases of Heart	988
Birth Defects	8	Suicide	8	Cancer	34	Diseases of Heart	146	Cancer	869
		Diseases of Heart	4	Diseases of Heart	21	Accidents	62	Stroke	260
		Birth Defects	2	Suicide	16	Suicide	35	C.L.R.D.**	244
				Stroke	8	Diabetes Mellitus	33	Alzheimer's Disease	115
TOTAL	32	TOTAL	59	TOTAL	168	TOTAL	840	TOTAL	3,865

Note: Total includes all other causes.

• **ADULT BEHAVIORAL HEALTH RISK FACTORS (2006-2008)**

[Includes: Bucks County Only]

Risk Factors	Percent (CI)	Risk Factors	Percent (CI)
Fair or Poor General Health:	11 (9 - 14)	Ever Told They Have Diabetes:	7 (5 - 9)
Obese:	22 (18 - 26)	Currently Has Asthma:	7 (5 - 9)
Overweight (includes obese):	58 (53 - 63)	Current Smoker:	16 (13 - 20)
No Health Insurance (Ages 18-64):	7 (5 - 11)	Ever Test for HIV (Ages 18-64):	30 (24 - 35)
Had Flu Shot in Past Year (50 & older):	55 (49 - 60)	Heavy Drinking*:	4 (3 - 6)

*Heavy drinking is defined as having an average of greater than 2 drinks per day for men and greater than 1 drink per day for women.

Notes: Data are based on 2006-2008 annual sample surveys of Pennsylvania adults. CI= 95% Confidence Interval.

Additional state or county/regional data are available at www.health.state.pa.us/stats/.

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **HEALTH CARE INSURANCE BY SELECTED PROGRAM/INSURER (12/09)**

CHIP Enrollment	adultBasic Enrollment	HMO Enrollment	Percent
8,698	1,414	243,847	39.0

Notes: CHIP is Pennsylvania's program to provide health insurance to the eligible uninsured children (ages 18 & under).

adultBasic provides healthcare coverage to the eligible uninsured adult population (age 19-64).

CHIP enrollment may also be included in the HMO (health maintenance organization) enrollment figures.

For more information on CHIP or adultBasic, go to the Pennsylvania Insurance Department website at www.ins.state.pa.us.

For additional HMO information, go to the Pennsylvania Department of Health website at www.health.state.pa.us (Managed Care).

• **HOSPITALS (7/07-6/08)**

Total	General Acute Care	Psychiatric	Rehabilitation	Federal	Other
8	7	0	0	0	0

General Hospitals

Beds Set Up and Staffed	984	Beds per 1,000 Population	1.6	Average Inpatient Occupancy Rate	70.8
Admissions	58,576	Admissions per 1,000 Population	94.2	Average Semi-Private Daily Room Rate	\$2,215

• **NURSING HOMES (2008)**

	Total Number	Certified-Medicare	Certified-Medicaid
Nursing Homes	32	31	27
Licensed/Approved Beds	3,643	3,619	3,308

Total Licensed/Approved Beds per 1,000 Population Age 65 and Older	42.1
Average Occupancy Rate	94.3
Average Length of Stay (Number of Days)	146.2

Median Semi-Private Daily Room Rate
\$257

• **DRUG and ALCOHOL TREATMENT**

Admission by County of Residence (7/08-6/09)

Admissions to State-Supported Facilities	Number of Clients Admitted	Client Primary Diagnosis			Percent Admitted Only Once During 7/08-6/09
		Drug Abuse	Alcohol Abuse	Other*	
3,129	2,306	1,641	637	28	75.4

* Includes family members receiving counseling.

Treatment Facilities (as of 6/10)

All Licensed Facilities	Types of Service Provided			
	Inpatient Non-Hospital	Inpatient Hospital	Partial Hospitalization	Outpatient
25	10	1	10	26
	Correctional Institution	0		

Note: Each licensed facility may provide more than one type of service.

• **HOME HEALTH AGENCIES (2008)**

Agencies Serving County	97	Total Residents Served	24,534
Agencies Located in County	19	Rate per 100	4

Note: Rate calculated using 2008 estimated population from U.S. Census

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **Health Care Workforce**

Employed in Healthcare

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Licensed Practical Nurse - 2008	1,160	2.7%	86.0%	6.9%

Direct Patient Care

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Physician - 2008	1,294	DNA	90.3%	DNA
Dentist - 2009	428	5.0%	82.8%	-3.5%
Registered Nurse - 2008/2009	3,707	DNA	76.7%	DNA

*The survey results are available every two years. Previous survey: Licensed Practical Nurse - 2006, Physician - 2006, Dentist - 2007, Registered Nurse - 2006/2007. Due to a change in survey methodology for Physicians and Registered Nurses, the "% Change from Previous Survey" data were not analyzed (DNA).

Notes: The "Estimated Number" and "% Intending to Remain in Profession 6+ Years" used to compute each "% Change from Previous Year" are adjusted based on the response rates for the previous and current survey results. Numbers and percentages pertain to county of employment. Percentages based on less than 10 respondents or on a total response less than 30 are considered statistically unreliable and are not displayed (ND).

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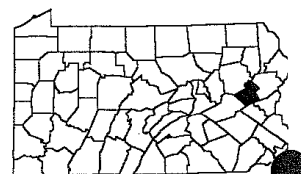
BUREAU of HEALTH STATISTICS and RESEARCH
PENNSYLVANIA DEPARTMENT of HEALTH
555 WALNUT STREET, 6th FLOOR
HARRISBURG, PA 17101-1914
Telephone 717-783-2548
FAX 717-772-3258



PENNSYLVANIA DEPARTMENT OF HEALTH
Bureau of Health Statistics and Research

Carbon County

Health Profile 2010



• DEMOGRAPHIC DATA

% Population Change 2000 to 2008	8.1	% Population with Income Below Poverty Level (2008)	11.0
Median Age of the Population (2008)	41.9	Per Capita Personal Income (2008)	\$31,136
% Population Aged 65 and Over (2008)	17.1	% Labor Force Unemployed (Annual Average 2009)	10.2
% Population Urban (2000)	49.7	% Population Eligible for Medical Assistance (12/09)	14.6

Estimated Population by Age and Sex (2008)

Age	Total	Male	Female	Age	Total	Male	Female
All Ages	63,558	30,438	33,120	35-44	8,125	3,901	4,224
Under 5	3,193	1,599	1,594	45-54	9,706	4,878	4,828
5-14	6,660	3,345	3,315	55-64	8,515	4,062	4,453
15-24	8,852	4,377	4,475	65-74	5,894	2,626	3,268
25-34	7,652	3,803	3,849	75+	4,961	1,847	3,114

• NATALITY and REPORTED PREGNANCIES^ (2008 Residents)

Crude Birth Rate Per 1,000 Population	10.8	% Low Birth Weight	7.2
Average Annual General Fertility Rate (2006-2008)	53.7	% Receiving No Prenatal Care in First Trimester	17.2
		% Births to Mothers Under 18	2.3

Age of Woman	Reported Pregnancies	Outcome			Age of Woman	Reported Pregnancies	Outcome		
		Live Births	Fetal Deaths	Induced Abortions			Live Births	Fetal Deaths	Induced Abortions
All Ages	820	686	4	130	18-19	72	50	0	22
Under 15	2	1	0	1	20-29	443	371	3	69
15-17	24	15	0	9	30 and Over	279	249	1	29

Age of Woman	Birth Rate	Reported Pregnancy Rate	Age of Woman	Birth Rate	Reported Pregnancy Rate
All Ages	54.7 **	65.3	18-19	57.4	82.7
Under 15	ND	ND	20-29	82.3	98.3
15-17	12.8	20.5	30-49	29.2	32.7

^Live births, fetal deaths of 16+ weeks gestation, and induced abortions performed in-state. *Asian/Pacific Islander **General fertility rate (ages 15-44).
Notes: All ages includes any unknown ages. All rates per 1,000.

• MORBIDITY (Residents)

Reported Incidence and Average Annual Rate (per 100,000) for Selected Notifiable Diseases (2006-2008)

	Total	Rate		Total	Rate		Total	Rate
AIDS	7	ND	Hep. B* Acute	2	ND	Salmonellosis	14	7.4
Campylobacteriosis	11	5.8	Hep. B* Chronic	11	5.8	Shigellosis	0	ND
Chlamydia	117	61.8	Lyme Disease	34	18.0	Syphilis	3	ND
Giardiasis	4	ND	Meningococcal**	0	ND	Tuberculosis	0	ND
Gonorrhea	18	9.5	Pertussis	13	6.9	Varicella	83	43.8
Hepatitis: Type A	1	ND	Rabies (Animals)	6	N/A			

*Hepatitis: Type B **Meningococcal Disease N/A=Not Applicable

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **CANCER INCIDENCE (2005-2007 Residents)**

Invasive Cancer Incidence and Average Annual Age-Adjusted Rates* for Major Sites by Sex

	Male		Female			Male		Female	
	Total	Rate	Total	Rate		Total	Rate	Total	Rate
All Sites	627	601.6	605	466.8	Urinary Bladder	56	53.3	24	17.7
Prostate	145	129.9	-	-	Corpus and Uterus, NOS	-	-	32	23.8
Female Breast	-	-	135	104.3	Non-Hodgkin Lymphoma	28	28.1	24	18.4
Lung and Bronchus	107	101.2	67	49.7	Kidney and Renal Pelvis	21	21.7	20	14.3
Colon and Rectum	68	70.4	72	50.6	Melanoma of the Skin	28	27.0	24	19.8

*Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.
Note: All in situ cases, except for urinary bladder, are excluded.

• **MORTALITY (2008 Residents)**

				All Races
Number of Resident Deaths	712	Number of Infant Deaths (< 1 Year of Age)		5
Crude Death Rate per 1,000	11.2	Infant Mortality Rate per 1,000 Live Births		ND
Age-Adjusted Death Rate per 1,000	8.6	Average Annual Infant Mortality Rate (2006-2008)		7.0

Selected Major Causes of Death, Number and Average Annual Age-Adjusted Death Rate* (2006-2008)

Cause	Total	Rate	Cause	Total	Rate
Diseases of Heart	614	254.3	Alzheimer's Disease	72	30.1
Cancer	509	206.0	Diabetes Mellitus	80	32.6
Stroke	101	41.5	Nephritis/Nephrosis	68	28.1
C.L.R.D.**	101	41.0	Influenza/Pneumonia	46	19.2
Accidents	106	54.0	Septicemia	38	15.2

* Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.

** Chronic Lower Respiratory Disease

Leading Causes of Death, Number by Age Group (2008)

Under 5 Years of Age		5-24 Years of Age		25-44 Years of Age		45-64 Years of Age		65 Years and Older	
Perinatal Conditions	3	Accidents	4	Accidents	14	Cancer	41	Diseases of Heart	154
				Cancer	5	Diseases of Heart	26	Cancer	96
				Diseases of Heart	5	Accidents	12	C.L.R.D.**	30
				Suicide	2	Suicide	8	Stroke	29
						C.L.R.D.**	6	Nephritis/Nephrosis	24
TOTAL	5	TOTAL	5	TOTAL	28	TOTAL	135	TOTAL	539

Note: Total includes all other causes.

• **ADULT BEHAVIORAL HEALTH RISK FACTORS (2006-2008)**

[Includes: Carbon, Lehigh, and Northampton Counties]

Risk Factors	Percent (CI)	Risk Factors	Percent (CI)
Fair or Poor General Health:	13 (11 - 16)	Ever Told They Have Diabetes:	8 (6 - 10)
Obese:	27 (23 - 31)	Currently Has Asthma:	10 (7 - 13)
Overweight (includes obese):	67 (62 - 72)	Current Smoker:	19 (16 - 23)
No Health Insurance (Ages 18-64):	13 (10 - 18)	Ever Test for HIV (Ages 18-64):	30 (25 - 35)
Had Flu Shot in Past Year (50 & older):	53 (49 - 58)	Heavy Drinking*:	11 (5 - 20)

*Heavy drinking is defined as having an average of greater than 2 drinks per day for men and greater than 1 drink per day for women.

Notes: Data are based on 2006-2008 annual sample surveys of Pennsylvania adults. CI= 95% Confidence Interval.

Additional state or county/regional data are available at www.health.state.pa.us/stats/.

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **HEALTH CARE INSURANCE BY SELECTED PROGRAM/INSURER (12/09)**

CHIP Enrollment	adultBasic Enrollment	HMO Enrollment	Percent
1,173	304	7,196	11.3

Notes: CHIP is Pennsylvania's program to provide health insurance to the eligible uninsured children (ages 18 & under).

adultBasic provides healthcare coverage to the eligible uninsured adult population (age 19-64).

CHIP enrollment may also be included in the HMO (health maintenance organization) enrollment figures.

For more information on CHIP or adultBasic, go to the Pennsylvania Insurance Department website at www.ins.state.pa.us.

For additional HMO information, go to the Pennsylvania Department of Health website at www.health.state.pa.us (Managed Care).

• **HOSPITALS (7/07-6/08)**

Total	General Acute Care	Psychiatric	Rehabilitation	Federal	Other
2	2	0	0	0	0

General Hospitals

Beds Set Up and Staffed	147	Beds per 1,000 Population	2.3	Average Inpatient Occupancy Rate	46.2
Admissions	5,188	Admissions per 1,000 Population	81.6	Average Semi-Private Daily Room Rate	\$514

• **NURSING HOMES (2008)**

	Total Number	Certified-Medicare	Certified-Medicaid
Nursing Homes	3	3	3
Licensed/Approved Beds	441	441	441

Total Licensed/Approved Beds per 1,000 Population Age 65 and Older	40.6
Average Occupancy Rate	92.0
Average Length of Stay (Number of Days)	244.1

Median Semi-Private Daily Room Rate
\$220

• **DRUG and ALCOHOL TREATMENT**

Admission by County of Residence (7/08-6/09)

Admissions to State-Supported Facilities	Number of Clients Admitted	Client Primary Diagnosis			Percent Admitted Only Once During 7/08-6/09
		Drug Abuse	Alcohol Abuse	Other*	
383	338	156	182	0	89.3

* Includes family members receiving counseling.

Treatment Facilities (as of 6/10)

All Licensed Facilities	Types of Service Provided			
	Inpatient Non-Hospital	Partial Hospitalization	Inpatient Hospital	Outpatient
2	0	0	0	3
	Correctional Institution			
	0			

Note: Each licensed facility may provide more than one type of service.

• **HOME HEALTH AGENCIES (2008)**

Agencies Serving County	44	Total Residents Served	2,464
Agencies Located in County	1	Rate per 100	3.9

Note: Rate calculated using 2008 estimated population from U.S. Census

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

- Health Care Workforce**

Employed in Healthcare

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Licensed Practical Nurse - 2008	174	15.5%	86.5%	4.0%

Direct Patient Care

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Physician - 2008	70	DNA	83.6%	DNA
Dentist - 2009	25	ND	ND	ND
Registered Nurse - 2008/2009	233	DNA	69.1%	DNA

*The survey results are available every two years. Previous survey: Licensed Practical Nurse - 2006, Physician - 2006, Dentist - 2007, Registered Nurse - 2006/2007. Due to a change in survey methodology for Physicians and Registered Nurses, the "% Change from Previous Survey" data were not analyzed (DNA).

Notes: The "Estimated Number" and "% Intending to Remain in Profession 6+ Years" used to compute each "% Change from Previous Year" are adjusted based on the response rates for the previous and current survey results. Numbers and percentages pertain to county of employment. Percentages based on less than 10 respondents or on a total response less than 30 are considered statistically unreliable and are not displayed (ND).

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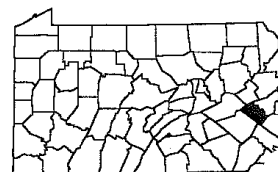
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PENNSYLVANIA DEPARTMENT OF HEALTH
Bureau of Health Statistics and Research

Lehigh County

Health Profile 2010



• DEMOGRAPHIC DATA

% Population Change 2000 to 2008	8.9	% Population with Income Below Poverty Level (2008)	10.2
Median Age of the Population (2008)	38.7	Per Capita Personal Income (2008)	\$39,549
% Population Aged 65 and Over (2008)	15.3	% Labor Force Unemployed (Annual Average 2009)	8.8
% Population Urban (2000)	90.4	% Population Eligible for Medical Assistance (12/09)	16.9

Estimated Population by Age and Sex (2008)

Age	Total	Male	Female	Age	Total	Male	Female
All Ages	339,989	165,556	174,433	35-44	45,150	22,980	22,170
Under 5	21,146	10,555	10,591	45-54	48,436	24,117	24,319
5-14	44,359	22,128	22,231	55-64	40,451	19,736	20,715
15-24	48,511	24,770	23,741	65-74	27,487	12,134	15,353
25-34	39,953	20,164	19,789	75+	24,496	8,972	15,524

• NATALITY and REPORTED PREGNANCIES^ (2008 Residents)

			All Races	White	Hispanic (of any race)
Crude Birth Rate					
Per 1,000 Population	12.7	% Low Birth Weight	7.9	6.1	8.5
Average Annual General Fertility Rate (2006-2008)	66.5	% Receiving No Prenatal Care in First Trimester	20.0	14.0	28.5
		% Births to Mothers Under 18	4.1	1.5	9.1

Age of Woman	Reported Pregnancies	Outcome			Age of Woman	Reported Pregnancies	Outcome		
		Live Births	Fetal Deaths	Induced Abortions			Live Births	Fetal Deaths	Induced Abortions
All Ages	5,551	4,307	44	1,200	18-19	435	300	7	128
Under 15	8	4	1	3	20-29	2,871	2,163	18	670
15-17	249	171	1	77	30 and Over	1,986	1,647	17	322

Age of Woman	Birth Rate	Reported Pregnancy Rate	Age of Woman	Birth Rate	Reported Pregnancy Rate
All Ages	65.6 **	84.5	18-19	64.4	93.4
Under 15	ND	ND	20-29	102.5	134.8
15-17	23.1	33.7	30-49	37.0	44.6

*Live births, fetal deaths of 16+ weeks gestation, and induced abortions performed in-state. *Asian/Pacific Islander **General fertility rate (ages 15-44).
Notes: All ages includes any unknown ages. All rates per 1,000.

• MORBIDITY (Residents)

Reported Incidence and Average Annual Rate (per 100,000) for Selected Notifiable Diseases (2006-2008)

	Total	Rate		Total	Rate		Total	Rate
AIDS	136	13.4	Hep. B* Acute	29	2.9	Salmonellosis	141	13.9
Campylobacteriosis	131	12.9	Hep. B* Chronic	197	19.4	Shigellosis	14	1.4
Chlamydia	3,571	352.6	Lyme Disease	386	38.1	Syphilis	11	1.1
Giardiasis	41	4.0	Meningococcal**	1	ND	Tuberculosis	27	2.7
Gonorrhea	915	90.3	Pertussis	49	4.8	Varicella	279	27.5
Hepatitis: Type A	12	1.2	Rabies (Animals)	15	N/A			

*Hepatitis: Type B **Meningococcal Disease N/A=Not Applicable

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **CANCER INCIDENCE (2005-2007 Residents)**

Invasive Cancer Incidence and Average Annual Age-Adjusted Rates* for Major Sites by Sex

	Male		Female			Male		Female	
	Total	Rate	Total	Rate		Total	Rate	Total	Rate
All Sites	3,009	603.4	2,893	456.2	Urinary Bladder	221	45.7	89	13.0
Prostate	812	155.1	-	-	Corpus and Uterus, NOS	-	-	216	33.5
Female Breast	-	-	779	126.2	Non-Hodgkin Lymphoma	137	27.4	104	16.1
Lung and Bronchus	452	92.7	330	48.8	Kidney and Renal Pelvis	117	23.0	90	13.6
Colon and Rectum	287	59.5	313	45.4	Melanoma of the Skin	134	26.2	122	21.8

*Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.
Note: All in situ cases, except for urinary bladder, are excluded.

• **MORTALITY (2008 Residents)**

			All Races	White	Hispanic (any race)
Number of Resident Deaths	3,029	Number of Infant Deaths (< 1 Year of Age)	35	22	8
Crude Death Rate per 1,000	8.9	Infant Mortality Rate per 1,000 Live Births	8.1	8.7	ND
Age-Adjusted Death Rate per 1,000	7.3	Average Annual Infant Mortality Rate (2006-2008)	8.2	9.8	4.9

Selected Major Causes of Death, Number and Average Annual Age-Adjusted Death Rate* (2006-2008)

Cause	Total	Rate	Cause	Total	Rate
Diseases of Heart	2,237	185.9	Alzheimer's Disease	337	27.8
Cancer	2,154	179.6	Diabetes Mellitus	251	20.9
Stroke	448	37.4	Nephritis/Nephrosis	224	18.6
C.L.R.D.**	438	36.3	Influenza/Pneumonia	150	12.6
Accidents	444	41.0	Septicemia	198	16.5

* Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.

** Chronic Lower Respiratory Disease

Leading Causes of Death, Number by Age Group (2008)

Under 5 Years of Age		5-24 Years of Age		25-44 Years of Age		45-64 Years of Age		65 Years and Older	
Perinatal Conditions	24	Accidents	11	Accidents	32	Cancer	170	Diseases of Heart	600
Birth Defects	2	Suicide	5	Diseases of Heart	17	Diseases of Heart	102	Cancer	504
Influenza/Pneumonia	2	Assault (Homicide)	3	Cancer	11	Accidents	40	C.L.R.D.**	134
Septicemia	2	Cancer	3	Suicide	9	Diabetes Mellitus	18	Alzheimer's Disease	116
				Assault (Homicide)	8	Stroke	17	Stroke	116
TOTAL	40	TOTAL	27	TOTAL	105	TOTAL	491	TOTAL	2,366

Note: Total includes all other causes.

• **ADULT BEHAVIORAL HEALTH RISK FACTORS (2006-2008)**

[Includes: Carbon, Lehigh, and Northampton Counties]

Risk Factors	Percent (CI)	Risk Factors	Percent (CI)
Fair or Poor General Health:	13 (11 - 16)	Ever Told They Have Diabetes:	8 (6 - 10)
Obese:	27 (23 - 31)	Currently Has Asthma:	10 (7 - 13)
Overweight (includes obese):	67 (62 - 72)	Current Smoker:	19 (16 - 23)
No Health Insurance (Ages 18-64):	13 (10 - 18)	Ever Test for HIV (Ages 18-64):	30 (25 - 35)
Had Flu Shot in Past Year (50 & older):	53 (49 - 58)	Heavy Drinking*:	11 (5 - 20)

*Heavy drinking is defined as having an average of greater than 2 drinks per day for men and greater than 1 drink per day for women.

Notes: Data are based on 2006-2008 annual sample surveys of Pennsylvania adults. CI= 95% Confidence Interval.

Additional state or county/regional data are available at www.health.state.pa.us/stats/.

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **HEALTH CARE INSURANCE BY SELECTED PROGRAM/INSURER (12/09)**

CHIP Enrollment	adultBasic Enrollment	HMO Enrollment	Percent
6,110	735	87,933	25.6

Notes: CHIP is Pennsylvania's program to provide health insurance to the eligible uninsured children (ages 18 & under).
 adultBasic provides healthcare coverage to the eligible uninsured adult population (age 19-64).
 CHIP enrollment may also be included in the HMO (health maintenance organization) enrollment figures.
 For more information on CHIP or adultBasic, go to the Pennsylvania Insurance Department website at www.ins.state.pa.us.
 For additional HMO information, go to the Pennsylvania Department of Health website at www.health.state.pa.us (Managed Care).

• **HOSPITALS (7/07-6/08)**

Total	General Acute Care	Psychiatric	Rehabilitation	Federal	Other
9	5	2	1	0	1

General Hospitals

Beds Set Up and Staffed	1,560	Beds per 1,000 Population	4.6	Average Inpatient Occupancy Rate	76.5
Admissions	91,187	Admissions per 1,000 Population	268.2	Average Semi-Private Daily Room Rate	\$1,800

• **NURSING HOMES (2008)**

	Total Number	Certified-Medicare	Certified-Medicaid
Nursing Homes	16	16	14
Licensed/Approved Beds	2,752	2,752	2,678

Total Licensed/Approved Beds per 1,000 Population Age 65 and Older	52.9
Average Occupancy Rate	95.8
Average Length of Stay (Number of Days)	158.0

Median Semi-Private Daily Room Rate
\$293

• **DRUG and ALCOHOL TREATMENT**

Admission by County of Residence (7/08-6/09)

Admissions to State-Supported Facilities	Number of Clients Admitted	Client Primary Diagnosis			Percent Admitted Only Once During 7/08-6/09
		Drug Abuse	Alcohol Abuse	Other*	
2,266	1,834	1,280	553	1	82.1

* Includes family members receiving counseling.

Treatment Facilities (as of 6/10)

All Licensed Facilities	Types of Service Provided			
	Inpatient Non-Hospital	Inpatient Hospital	Correctional Institution	Partial Hospitalization Outpatient
15	4	0	0	1 12

Note: Each licensed facility may provide more than one type of service.

• **HOME HEALTH AGENCIES (2008)**

Agencies Serving County	43	Total Residents Served	8,902
Agencies Located in County	20	Rate per 100	2.6

Note: Rate calculated using 2008 estimated population from U.S. Census

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

- Health Care Workforce**

Employed in Healthcare

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Licensed Practical Nurse - 2008	957	-0.6%	77.5%	6.8%

Direct Patient Care

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Physician - 2008	1,265	DNA	93.1%	DNA
Dentist - 2009	224	9.9%	81.2%	-1.8%
Registered Nurse - 2008/2009	4,191	DNA	76.0%	DNA

*The survey results are available every two years. Previous survey: Licensed Practical Nurse - 2006, Physician - 2006, Dentist - 2007, Registered Nurse - 2006/2007. Due to a change in survey methodology for Physicians and Registered Nurses, the "% Change from Previous Survey" data were not analyzed (DNA).

Notes: The "Estimated Number" and "% Intending to Remain in Profession 6+ Years" used to compute each "% Change from Previous Year" are adjusted based on the response rates for the previous and current survey results. Numbers and percentages pertain to county of employment. Percentages based on less than 10 respondents or on a total response less than 30 are considered statistically unreliable and are not displayed (ND).

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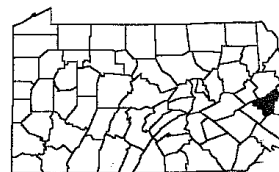
BUREAU of HEALTH STATISTICS and RESEARCH
PENNSYLVANIA DEPARTMENT of HEALTH
555 WALNUT STREET, 6th FLOOR
HARRISBURG, PA 17101-1914
Telephone 717-783-2548
FAX 717-772-3258



PENNSYLVANIA DEPARTMENT OF HEALTH
Bureau of Health Statistics and Research

Northampton County

Health Profile 2010



• DEMOGRAPHIC DATA

% Population Change 2000 to 2008	10.4	% Population with Income Below Poverty Level (2008)	8.7
Median Age of the Population (2008)	38.1	Per Capita Personal Income (2008)	\$36,448
% Population Aged 65 and Over (2008)	14.6	% Labor Force Unemployed (Annual Average 2009)	8.1
% Population Urban (2000)	84.7	% Population Eligible for Medical Assistance (12/09)	12.2

Estimated Population by Age and Sex (2008)

Age	Total	Male	Female	Age	Total	Male	Female
All Ages	294,787	145,342	149,445	35-44	39,945	19,714	20,231
Under 5	17,280	8,926	8,354	45-54	41,453	20,375	21,078
5-14	37,589	19,539	18,050	55-64	35,200	17,020	18,180
15-24	46,358	24,460	21,898	65-74	22,373	10,046	12,327
25-34	33,945	17,526	16,419	75+	20,644	7,736	12,908

• NATALITY and REPORTED PREGNANCIES^ (2008 Residents)

			All Races	White	Hispanic (of any race)
Crude Birth Rate					
Per 1,000 Population	10.8	% Low Birth Weight	9.8	9.2	10.5
Average Annual General Fertility Rate (2006-2008)	55.3	% Receiving No Prenatal Care in First Trimester	17.5	14.8	25.2
		% Births to Mothers Under 18	2.6	1.6	7.1

Age of Woman	Reported Pregnancies	Outcome			Age of Woman	Reported Pregnancies	Outcome		
		Live Births	Fetal Deaths	Induced Abortions			Live Births	Fetal Deaths	Induced Abortions
All Ages	3,941	3,195	37	709	18-19	281	187	1	93
Under 15	5	4	0	1	20-29	1,913	1,512	16	385
15-17	111	78	1	32	30 and Over	1,631	1,414	19	198

Age of Woman	Birth Rate	Reported Pregnancy Rate	Age of Woman	Birth Rate	Reported Pregnancy Rate
All Ages	54.6 **	67.3	18-19	36.5	54.8
Under 15	ND	ND	20-29	84.6	107.1
15-17	11.7	16.6	30-49	35.9	41.4

*Live births, fetal deaths of 16+ weeks gestation, and induced abortions performed in-state. *Asian/Pacific Islander **General fertility rate (ages 15-44).
Notes: All ages includes any unknown ages. All rates per 1,000.

• MORBIDITY (Residents)

Reported Incidence and Average Annual Rate (per 100,000) for Selected Notifiable Diseases (2006-2008)

	Total	Rate		Total	Rate		Total	Rate
AIDS	58	6.6	Hep. B* Acute	16	1.8	Salmonellosis	110	12.5
Campylobacteriosis	111	12.6	Hep. B* Chronic	122	13.9	Shigellosis	4	ND
Chlamydia	1,566	178.0	Lyme Disease	331	37.6	Syphilis	9	ND
Giardiasis	47	5.3	Meningococcal**	3	ND	Tuberculosis	12	1.4
Gonorrhea	368	41.8	Pertussis	33	3.8	Varicella	107	12.2
Hepatitis: Type A	8	ND	Rabies (Animals)	30	N/A			

*Hepatitis: Type B **Meningococcal Disease N/A=Not Applicable

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

• **CANCER INCIDENCE (2005-2007 Residents)**

Invasive Cancer Incidence and Average Annual Age-Adjusted Rates* for Major Sites by Sex

	Male		Female			Male		Female	
	Total	Rate	Total	Rate		Total	Rate	Total	Rate
All Sites	2,766	640.0	2,505	454.2	Urinary Bladder	214	50.6	79	13.4
Prostate	789	177.9	-	-	Corpus and Uterus, NOS	-	-	168	30.7
Female Breast	-	-	680	125.9	Non-Hodgkin Lymphoma	139	32.5	107	18.3
Lung and Bronchus	393	91.9	285	48.8	Kidney and Renal Pelvis	99	22.4	69	12.1
Colon and Rectum	247	58.1	255	43.1	Melanoma of the Skin	119	28.1	97	19.8

*Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.
Note: All in situ cases, except for urinary bladder, are excluded.

• **MORTALITY (2008 Residents)**

		All Races	White	Hispanic (any race)
Number of Resident Deaths	2,689	14	11	3
Crude Death Rate per 1,000	9.1	4.4	4.7	ND
Age-Adjusted Death Rate per 1,000	7.6	6.1	5.6	6.6
Number of Infant Deaths (< 1 Year of Age)				
Infant Mortality Rate per 1,000 Live Births				
Average Annual Infant Mortality Rate (2006-2008)				

Selected Major Causes of Death, Number and Average Annual Age-Adjusted Death Rate* (2006-2008)

Cause	Total	Rate	Cause	Total	Rate
Diseases of Heart	2,129	204.5	Alzheimer's Disease	199	18.8
Cancer	1,847	180.4	Diabetes Mellitus	263	25.8
Stroke	364	35.2	Nephritis/Nephrosis	175	16.8
C.L.R.D.**	338	32.9	Influenza/Pneumonia	144	13.8
Accidents	292	30.9	Septicemia	173	16.8

* Per 100,000 2000 U.S. standard million population. Age-adjusted rates are only comparable if the same standard million population was used in the calculation.

** Chronic Lower Respiratory Disease

Leading Causes of Death, Number by Age Group (2008)

Under 5 Years of Age		5-24 Years of Age		25-44 Years of Age		45-64 Years of Age		65 Years and Older	
Perinatal Conditions	8	Accidents	15	Accidents	22	Cancer	138	Diseases of Heart	675
Birth Defects	2	Assault (Homicide)	4	Cancer	11	Diseases of Heart	67	Cancer	473
Septicemia	2	Suicide	4	Suicide	10	Accidents	27	C.L.R.D.**	113
				Diseases of Heart	9	Diabetes Mellitus	19	Stroke	105
						Stroke	19	Diabetes Mellitus	66
TOTAL	16	TOTAL	30	TOTAL	82	TOTAL	374	TOTAL	2,187

Note: Total includes all other causes.

• **ADULT BEHAVIORAL HEALTH RISK FACTORS (2006-2008)**

[Includes: Carbon, Lehigh, and Northampton Counties]

Risk Factors	Percent (CI)	Risk Factors	Percent (CI)
Fair or Poor General Health:	13 (11 - 16)	Ever Told They Have Diabetes:	8 (6 - 10)
Obese:	27 (23 - 31)	Currently Has Asthma:	10 (7 - 13)
Overweight (includes obese):	67 (62 - 72)	Current Smoker:	19 (16 - 23)
No Health Insurance (Ages 18-64):	13 (10 - 18)	Ever Test for HIV (Ages 18-64):	30 (25 - 35)
Had Flu Shot in Past Year (50 & older):	53 (49 - 58)	Heavy Drinking*:	11 (5 - 20)

*Heavy drinking is defined as having an average of greater than 2 drinks per day for men and greater than 1 drink per day for women.

Notes: Data are based on 2006-2008 annual sample surveys of Pennsylvania adults. CI= 95% Confidence Interval.

Additional state or county/regional data are available at www.health.state.pa.us/stats/.

Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and labeled (ND), unless otherwise noted.

• **HEALTH CARE INSURANCE BY SELECTED PROGRAM/INSURER (12/09)**

CHIP Enrollment	adultBasic Enrollment	HMO Enrollment	Percent
4,374	460	62,667	21.0

Notes: CHIP is Pennsylvania's program to provide health insurance to the eligible uninsured children (ages 18 & under).

adultBasic provides healthcare coverage to the eligible uninsured adult population (age 19-64).

CHIP enrollment may also be included in the HMO (health maintenance organization) enrollment figures.

For more information on CHIP or adultBasic, go to the Pennsylvania Insurance Department website at www.ins.state.pa.us.

For additional HMO information, go to the Pennsylvania Department of Health website at www.health.state.pa.us (Managed Care).

• **HOSPITALS (7/07-6/08)**

Total	General Acute Care	Psychiatric	Rehabilitation	Federal	Other
3	2	0	0	0	1

General Hospitals

Beds Set Up and Staffed	259	Beds per 1,000 Population	0.9	Average Inpatient Occupancy Rate	57.8
Admissions	12,019	Admissions per 1,000 Population	40.8	Average Semi-Private Daily Room Rate	\$1,278

• **NURSING HOMES (2008)**

	Total Number	Certified-Medicare	Certified-Medicaid
Nursing Homes	13	13	10
Licensed/Approved Beds	2,035	1,996	1,831

Total Licensed/Approved Beds per 1,000 Population Age 65 and Older	47.3
Average Occupancy Rate	90.5
Average Length of Stay (Number of Days)	138.4

Median Semi-Private Daily Room Rate
\$239

• **DRUG and ALCOHOL TREATMENT**

Admission by County of Residence (7/08-6/09)

Admissions to State-Supported Facilities	Number of Clients Admitted	Client Primary Diagnosis			Percent Admitted Only Once During 7/08-6/09
		Drug Abuse	Alcohol Abuse	Other*	
844	686	472	214	0	82.4

* Includes family members receiving counseling.

Treatment Facilities (as of 6/10)

All Licensed Facilities	Types of Service Provided			
	Inpatient Non-Hospital	0	Partial Hospitalization	1
6	Inpatient Hospital	0	Outpatient	11
	Correctional Institution	0		

Note: Each licensed facility may provide more than one type of service.

• **HOME HEALTH AGENCIES (2008)**

Agencies Serving County	41	Total Residents Served	7,986
Agencies Located in County	3	Rate per 100	2.7

Note: Rate calculated using 2008 estimated population from U.S. Census

General Note: Crude rates based on less than 10 events and age-adjusted rates based on less than 20 events are considered statistically unreliable and are not displayed (ND), unless otherwise noted.

- **Health Care Workforce**

Employed in Healthcare

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Licensed Practical Nurse - 2008	625	5.4%	78.1%	7.8%

Direct Patient Care

	Estimated Number	% Change from Previous Survey*	% Intending to Remain in Profession 6+ Years	% Change from Previous Survey*
Physician - 2008	525	DNA	90.3%	DNA
Dentist - 2009	144	1.6%	85.0%	-4.1%
Registered Nurse - 2008/2009	1,407	DNA	73.8%	DNA

*The survey results are available every two years. Previous survey: Licensed Practical Nurse - 2006, Physician - 2006, Dentist - 2007, Registered Nurse - 2006/2007. Due to a change in survey methodology for Physicians and Registered Nurses, the "% Change from Previous Survey" data were not analyzed (DNA).

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Telephone 717-783-2548
FAX 717-772-3258



PENNSYLVANIA DEPARTMENT OF HEALTH
Bureau of Health Statistics and Research

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