

STATISTICAL NEWS

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Teen Pregnancy Rate Declines After a Three Year Increase

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Racial disparities, specifically between black and white populations, are a common theme when discussing cancer. However, recent studies by the American Cancer Society indicate the primary driving factor behind cancer disparities is socioeconomic status rather than biological or racial differences.¹

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Pregnancies Decline in Pennsylvania

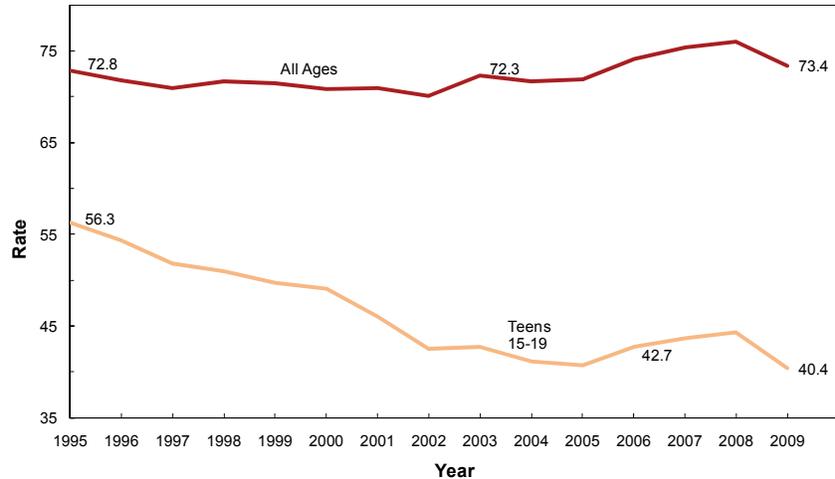
Teen Pregnancy Rate Declines After a Three Year Increase

There were 182,625 pregnancies reported among female residents of Pennsylvania in 2009, with a reported pregnancy rate of 73.4 per 1,000 females ages 15-44. From 1995 to 2002, the reported pregnancy rate among female residents decreased by 3.7 percent from 72.8 to 70.1. From 2002 to 2008, the reported pregnancy rate increased by 8.4 percent from 70.1 to 76.0. Although the reported pregnancy rate for 2009 (73.4) decreased by 3.4 percent from the 2008 pregnancy rate of 76.0, the 2009 pregnancy rate is 4.7 percent higher than the 2002 rate of 70.1, the annual low over this timeframe.

Chart 1 depicts the annual rate of reported pregnancies for all Pennsylvania residents and the annual rate of reported pregnancies for teens (ages 15-19), from 1995 through 2009. The teen pregnancy rate declined by 27.7 percent from 1995 (56.3) to 2005 (40.7), then rose for three consecutive years to a rate of 44.3 in 2008. However, in 2009, the teen pregnancy rate (40.4) decreased by 8.8 percent from the 2008 teen pregnancy rate and is the lowest rate for the time period of 1995 through 2009. The rate for all pregnancies in Pennsylvania also decreased, from 76.0 percent in 2008 to 73.4 percent in 2009.

Table 1 compares the reported pregnancy rates by women's ages for 2009 and 2008. All of the rates for the age groups listed have decreased. The largest percentage decrease in the rate was seen for ages under 15 (10.0 percent) followed by women in the age group 15-19 with a decrease of 8.8 percent, and then by women in the age group 20-29 (4.8 percent).

Chart 1
Reported Pregnancy Rate*, All Ages and Teens 15-19
Pennsylvania Residents, 1995-2009



*Teen rate per 1,000 female population ages 15-19; All Ages - per 1,000 females ages 15-44 years.
Note: Unknown age included in All Ages

Table 1
Reported Pregnancies and Rates* by Woman's Age and Year
Pennsylvania Residents, 2009 and 2008

Age of Woman	2009		2008		Rate % Difference
	Number	Rate	Number	Rate	
All Ages	182,625	73.4	187,696	76.0	-3.4
Under 15	341	0.9	389	1.0	-10.0
15-19	18,825	40.4	20,289	44.3	-8.8
20-29	95,794	117.8	98,547	123.7	-4.8
30 & Older	67,530	40.4	68,362	40.8	-1.0

*Rate Calculations: per 1,000 female population for each year by age group; all ages - per 1,000 females ages 15-44 years; under 15 - per 1,000 females ages 10-14 years; and 30 & older - per 1,000 females ages 30-49 years.

Notes: Unknown ages are included in the total number for all ages.

The rate for women aged 30 and older decreased by 1.0 percent.

Reported pregnancy statistics for Pennsylvania residents in 2009, by woman's age group and outcome, are shown in Table 2 (next page). In 2009, 79.7 percent (145,472) of all reported pregnancies resulted in a live birth, 19.5 percent (35,684) in an induced abortion, and only 0.8 percent (1,469) in a fetal death (non-induced termination of 16 weeks or more gestation). Women aged 20-29

accounted for 52.5 percent of all reported pregnancies in 2009; those under 20 years of age accounted for 10.5 percent; and women 30 years of age and older accounted for 37.0 percent. In 2009, 67.7 percent of all reported pregnancies to women under 20 years of age resulted in a live birth, compared to 77.6 percent for women 20-29 years of age, and 86.0 percent for those women 30 years of age and older.

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Pregnancies Decline in Pennsylvania

Almost 68 percent (123,397) of all reported pregnancies in 2009 were among White women, as shown in Table 3. Black women accounted for 20.5 percent (37,486) of the reported pregnancies; and Asian/Pacific Islander women accounted for only 3.7 percent (6,697) of all reported pregnancies. Reported pregnancies among women of Hispanic origin accounted for 9.3 percent (17,010). Please note that persons of Hispanic origin can be of any race. Among Hispanic and Black females in 2009, 17.5 percent and 18.9 percent of the reported pregnancies, respectively, were to females under 20 years of age. Only 7.6 percent of all reported pregnancies to Whites and 3.2 percent of all reported pregnancies to Asian/Pacific Islanders were to females under 20 years of age.

Chart 2 shows the percentage of 2009 reported pregnancies by outcome, race, and Hispanic origin for Pennsylvania residents. In 2009, 84.4 percent of the reported pregnancies to White women resulted in a live birth and 14.9 percent in an induced abortion. Among Asian/Pacific Islander women, 81.7 percent of the reported pregnancies resulted in a live birth and 17.9 percent in an induced abortion. Only 58.7 percent of the reported pregnancies among Black women resulted in a live birth and 40.4 percent resulted in an induced abortion. The percentages of live births and induced abortions for Hispanic women were similar to those for White women and Asian/Pacific Islander women at 82.3 percent and 16.9 percent, respectively.

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Table 2
Reported Pregnancies by Woman's Age Group and Outcome
Pennsylvania Residents, 2009

Age of Woman	Reported Pregnancies	Live Births	Fetal Deaths	Induced Abortions
All Ages	182,625	145,472	1,469	35,684
Under 15	341	136	4	201
15-17	5,846	3,862	48	1,936
18-19	12,979	8,969	77	3,933
20-29	95,794	74,368	712	20,714
30 & Older	67,530	58,057	585	8,888

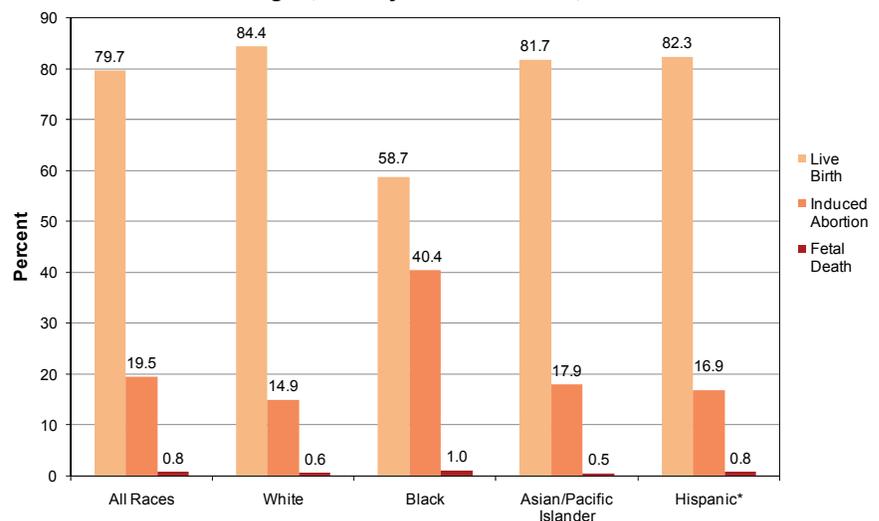
Note: Unknown ages are included in the total for all ages.

Table 3
Reported Pregnancies by Age, Race and Hispanic Origin
of Woman, Pennsylvania Residents, 2009

Age of Woman	All Races	White	Black	Asian/Pacific Islander	Hispanic Origin
All Ages	182,625	123,397	37,486	6,697	17,010
Under 15	341	105	193	4	47
15-17	5,846	2,428	2,483	62	986
18-19	12,979	6,824	4,405	145	1,937
20-29	95,794	63,215	21,302	2,760	9,820
30 & Older	67,530	50,757	9,085	3,719	4,212

Notes: Hispanic origin can be of any race. Unknown ages are included in the total for all ages.

Chart 2
Reported Pregnancies, Percent Outcome by Race and Hispanic Origin*, Pennsylvania Residents, 2009



*Hispanic Origin can be of any race

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Pregnancies Decline in Pennsylvania

Three components were used to calculate the reported pregnancies (live births, non-induced fetal deaths, and induced abortions). Please note the following qualifications of the reported pregnancy statistics as released by the Bureau of Health Statistics and Research. Fetal deaths

exclude non-induced terminations of less than 16 weeks of gestation. Induced abortions exclude those performed on a Pennsylvania resident in an out-of-state facility.

For additional statistics on age-specific pregnancy rate and percent live birth outcome for reported resi-

dent teen pregnancies please visit our website at www.health.state.pa.us/stats and click on the EpiQMS logo. If you have any questions about the data presented here, please contact the Bureau of Health Statistics and Research at 717-783-2548.

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Suicides Rise in 2009 for Third Consecutive Year

Male Suicides Still Much Higher Than Female Suicides

The number of suicides and the age-adjusted rate for suicides among Pennsylvania residents increased in 2009 for the third consecutive year. Between 2001 and 2006, rates had remained relatively stable until taking a swing upwards beginning in 2007.

Pennsylvania and United States Comparisons:

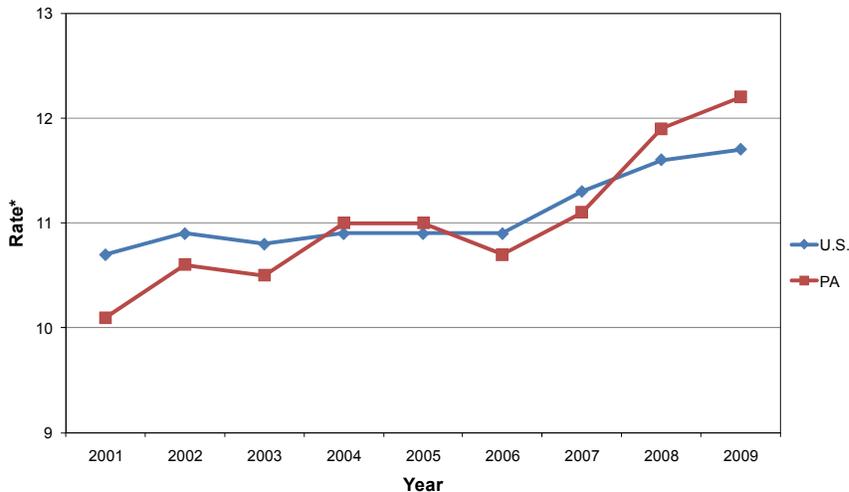
There were 1,601 resident suicides in Pennsylvania during 2009 for an age-adjusted death rate of 12.2 (per 100,000 U.S. 2000 standard million population). The corresponding preliminary U.S. rate in 2009 was 11.7 (see Chart 1).

Race/Sex:

The age-adjusted suicide rate for whites (13.0) in Pennsylvania during 2009 was higher than the rate for blacks (6.3). There were 1,489 resident suicides for whites while there were 87 for blacks.

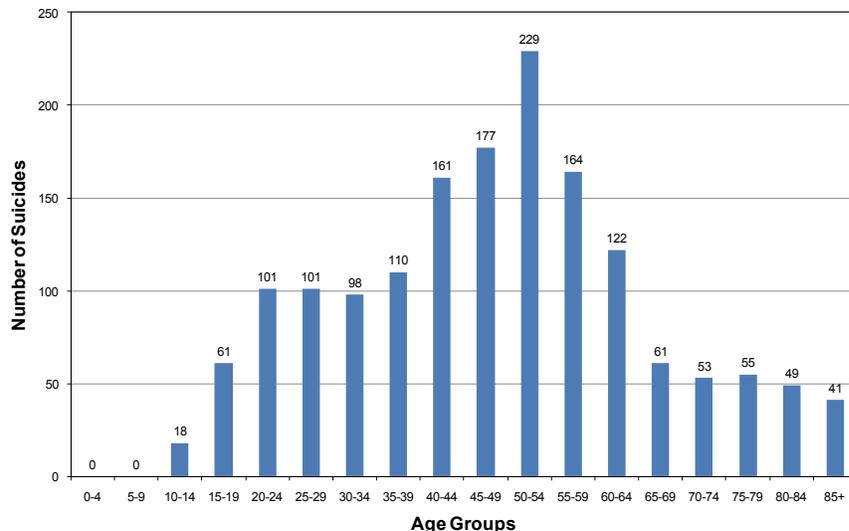
The vast majority of suicide deaths for Pennsylvania residents occurred to males. In fact, suicide rates among males continue to remain approximately four times higher than the rates for female residents. In 2009, the age-adjusted suicide rate among males was more than four times higher than the rate for females - 20.1 compared to 4.9 among females. Of the 1,601 resident suicides recorded that year, 1,271 occurred among males. Male suicides accounted for an astonishing 79.4 percent of the resident suicides in Pennsylvania. Of those male suicides, 1,187 were among whites (age-adjusted rate of 21.5) while 70 were among blacks (rate of 11.0).

Chart 1
Resident Age-Adjusted Suicide Rates*
Pennsylvania and the United States, 2001 - 2009



Note: 2008 and 2009 U.S. data are preliminary
* per 100,000 and adjusted to the 2000 U.S. standard population

Chart 2
Suicides by 5-Year Age Groups
for Pennsylvania Residents, 2009



Age:

Middle-aged adults had the highest number of suicides of any age group in 2009 (see Chart 2). Specifically, people ages 50-54 had the highest number, accounting for 14.3 percent

of all suicides. The second highest number occurred among those aged 45-49, followed by the age groups 55-59 and 40-44. Over 45 percent of all suicides for Pennsylvania residents occurred between the ages of 40-59.

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Suicides Rise in 2009 for Third Consecutive Year

Type of Suicide:

Three types of suicide were most prevalent in the year 2009. Suicide by use of firearms (817 suicides) made up 51.0 percent of all suicides for Pennsylvania residents. Suffocation (376) was second at 23.5 percent and poisoning (285) made up 17.8 percent.

County:

The county with the highest age-adjusted suicide rate for the 3-year period of 2007-2009 was Bradford County (19.3 based on 37 suicides). The second highest rate was for Indiana (17.8 based on 46 suicides). Third was Carbon, followed by Jefferson and Schuylkill. It is interesting to note that 4 of these counties are considered to be rural counties (Schuylkill is considered urban). Of

the five counties listed above, all but Jefferson had significantly higher age-adjusted suicide rates than the state.

Lancaster County had the lowest age-adjusted suicide rate (7.5 based on 115 suicides) for the three-year period 2007-2009. Chester County (9.8 based on 149 suicides) and Fayette County (10.0 based on 44 suicides) were the next lowest, followed by Allegheny (404) and Philadelphia (457) Counties who were tied with a rate of 10.6. Of the five counties listed above, only Fayette County did not have a significantly lower rate than the state. There were 22 counties with less than 20 suicides from 2007 to 2009 that were not included in these rankings, since age-adjusted rates based on less than 20 events are considered statistically unreliable.

Trends:

More recently, the age-adjusted resident suicide rate for Pennsylvania has been increasing. In 2008, the suicide rate jumped to 11.9 from 11.1 in 2007. The rate increased slightly again in 2009 to 12.2. From 2001 to 2009, the age-adjusted suicide rate for Pennsylvania increased by almost 21 percent, from 10.1 to 12.2.

For questions regarding the statistics presented in this article, please contact the Bureau of Health Statistics and Research at 717-783-2548 or via an email link on our web site at www.health.state.pa.us/stats.

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The Impact of Socioeconomic Status on Cancer in Pennsylvania

Death Rates Higher Amongst Less Educated

Racial disparities, specifically between black and white populations, are a common theme when discussing cancer. However, recent studies by the American Cancer Society indicate the primary driving factor behind cancer disparities is socioeconomic status rather than biological or racial differences.¹ The most obvious reason is that socioeconomic status is inherently related to an individual's standard of living and several other complex factors that affect one's ability to survive cancer, including access to health care, cancer screening, health insurance, educational attainment, occupation, tobacco use, and nutrition.

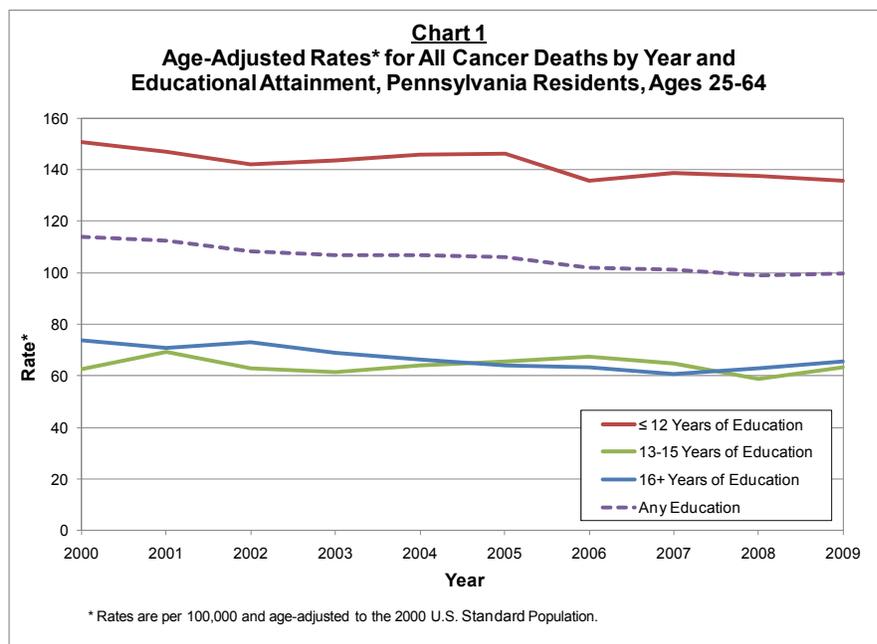
Socioeconomic status is based on differences among an individual or group's economic and social position, relative to other individuals or groups, based on income, education, and occupation. Low socioeconomic status can be associated with a lack of health insurance which leads to limited or no access to health care, delayed cancer screening, and improper cancer treatment. Low socioeconomic status is also associated with an increase in unhealthy behaviors such as smoking, obesity/poor diets, and a lack of physical activity. Based on previous studies, some epidemiologists and researchers consider socioeconomic status one of the best indicators of an individual's overall health.²

The reason that socioeconomic status is often overlooked among cancer statistics is probably related to the lack of readily available data sources at the state and local level, as opposed to a lack of interest and importance. For this analysis, cancer related statistics were calculated

Table 1
Social Economic Disparities by Race for Pennsylvania, 2009

	Whites	Blacks
High School or Less (Ages 25+)	50.5%	58.5%
College Degree (Ages 25+)	26.8%	14.6%
Below Poverty (Ages 25-64)	7.3%	22.8%
No Health Insurance (Ages 25-64)	11.0%	19.5%
Unemployment	6.7%	11.7%
Per Capita Income	\$28,538	\$16,912

Data Sources: U.S. Census Bureau - American Community Survey and Current Population Survey.



from the Pennsylvania Death Certificate and the Behavioral Risk Factor Surveillance Survey (BRFSS). Statistics on socioeconomic status, such as per capita income, unemployment, poverty, health insurance coverage, and educational attainment were obtained from the U.S. Census Bureau. When available, statistics were limited to the age group 25-64 since cancer deaths were considered more preventable and educational attainment, unemployment, and healthcare

coverage data were considered more accurate for this age group.

As shown in Table 1, a greater percentage of the black population in Pennsylvania had a lower socioeconomic status than whites as measured by several factors. In particular, blacks had less college education, more poverty, less healthcare coverage, higher unemployment rates, and less income than whites. At the same time, it is important to note that all

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The Impact of Socioeconomic Status on Cancer in Pennsylvania

racers are also affected by lower socioeconomic status. Nonetheless, these measures of socioeconomic status may partially explain the cancer disparities commonly observed between blacks and whites.

Educational attainment is one of the most commonly used measures of socioeconomic status. Throughout the period 2000-2009, age-adjusted cancer death rates were consistently highest among Pennsylvania residents aged 25-64 with 12 or less years of education (see Chart 1, previous page). In fact these death rates were around two times as high as the rates among residents with at least 13 years of education. For example, in 2009 residents with 12 or less years of education had an age-adjusted cancer death rate of 135.6 per 100,000 compared to 65.7 among residents with 16 or more years of education. Cancer death rates did not differ much between residents who had 13-15 years of education (63.4 per 100,000) compared to those with 16 or more years of education. On a positive note, the cancer death rates have been decreasing among Pennsylvania residents with 12 or less years of education. There also appeared to be some small decreases in the cancer death rates among residents with 16 or more years of education, although no sizable decreases were observed among residents with 13-15 years of education.

To expand on the association between cancer death rates and education level, age-adjusted rates were calculated for three more common cancer sites (lung/bronchus, female breast, and colon/rectum – see Table 2). Cancer sites that were associated with tobacco smoking (pancreas,

Table 2
Age-Adjusted Death Rates* of Select Cancer Sites by Educational Level Among Pennsylvania Residents, Ages 25-64, 2009

	≤ 12 Years of Education	13-15 Years of Education	16+ Years of Education
All Cancer Sites	135.6	63.4	65.7
Lung and Bronchus	38.3	13.2	11.4
Female Breast	23.3	14.6	18.2
Colon and Rectum	12.0	5.9	5.8
Pancreas	7.3	4.2	4.9
Esophagus	5.1	2.0	1.7
Prostate	3.4	2.2	1.9
Kidney and Renal Pelvis	3.2	1.7	1.6

* Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population.

Table 3
Percent Prevalence of Behavior Risk Factors and Cancer Screening by Educational Level among Pennsylvania Adults, 2010

	≤ High School	Some College	College Degree
Current Smoker (ages 25-64)	32- 34 -36	22- 25 -28	7- 8 -9
Women who had a mammogram or clinical breast exam in the past year (ages 40+)	65- 67 -69	66- 69 -72	75- 78 -81
Men who had a PSA* or DRE† in past year (ages 50+)	61- 64 -68	57- 63 -68	63- 68 -72
Ever had a sigmoidoscopy, colonoscopy, or blood stool test using a home kit (ages 50+)	71- 73 -75	72- 75 -78	76- 79 -81
No Health Insurance (ages 25-64)	18- 20 -22	13- 15 -18	4- 5 -6
Has Health Insurance (ages 25-64)	78- 80 -82	82- 85 -87	94- 95 -96

Some College = No Degree College Degree = Graduated from College or Technical School

* PSA = Prostate Specific Antigen † DRE = Digital Rectal Exam

Note: Percents are bolded and include 95% confidence intervals in smaller font to either side.

esophagus, and kidney/renal pelvis) or were associated with cancer screening (e.g. prostate) were also included. In 2009, elevated death rates were observed among residents aged 25-64 with the least amount of education for each cancer site listed in Table 2. Some cancer sites, such as lung and bronchus, had a death rate that was nearly three times higher for residents with 12 or less years of education compared to residents with 16 or more years of education. Again, there was not much difference between cancer death rates for residents with 13-15 years

of education compared to residents with 16 or more years of education.

Additional data from the BRFSS survey were analyzed to substantiate the relationship between educational attainment and cancer death rates. In Table 3, prevalence rates by educational attainment were calculated for behaviors that are directly associated with cancer risk. Specifically, statistics on tobacco smoking, various cancer screenings, and coverage of healthcare insurance support the premise that educational attainment, as a measure of socioeconomic

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The Impact of Socioeconomic Status on Cancer in Pennsylvania

status, may be an important indicator of premature cancer deaths.

Tobacco smoking is an obvious risk factor for lung and bronchus cancer, but it's also been associated with an increased risk of several other cancers. In Table 3, the BRFSS survey for 2010 indicated that the prevalence of tobacco smokers among Pennsylvania residents aged 25-64 was significantly higher for the least educated. Specifically, residents with a high school education or less had a prevalence of 34% (with 95% Confidence Interval (CI): 32-36) compared to residents with a college degree (8%, CI: 7-9). Residents with a college degree (8%, CI: 7-9) were also significantly less likely to smoke compared to residents with some college (25%, CI: 22-28). As expected, the prevalence rates among smokers by educational attainment support the findings in Table 2, where cancer death rates for lung/bronchus, pancreas, esophagus, and kidney/renal pelvis were found to be lower for college graduates and higher for residents with less education.

Prevalence rates for cancer screening increased with education

level according to the 2010 BRFSS survey (see Table 3). In particular, Pennsylvania women ages 40 and over with a college education were more likely to have a mammogram or clinical breast exam in the past year. Women who do not have breast cancer screening are more likely to be diagnosed at a later stage when the survival rate is poor. Similarly, screening of colon/rectum cancers had higher prevalence rates among college graduates, although the differences were not as dramatic as it was for tobacco smoking and for breast cancer screening.

Lastly, BRFSS data showed that college graduates aged 25-64 in Pennsylvania were significantly more likely to have healthcare insurance than residents with a high school education or less (95%, CI: 94-96 compared to 80%, CI: 78-82, respectively – see Table 3). A lack of healthcare insurance is an obvious risk factor since cancer victims might not receive timely and optimal care.

Overall, a strong association was found between elevated cancer death rates and low socioeconomic status as measured by educational attain-

ment among Pennsylvania residents. Several behavioral risk factors that are related to cancer risk also experienced socioeconomic differences and helped explain why these groups had higher cancer death rates. Despite the complex nature of socioeconomic status and regardless of one's race, this analysis sheds light on the basic factors that lead to higher cancer death rates, such as higher smoking rates, less healthcare coverage, and less cancer screening among individuals. Simply put, these risk factors for cancer are magnified among Pennsylvania residents with a low socioeconomic status.

For more information about the data contained in this article or data available from the Pennsylvania Cancer Registry, please contact the Bureau of Health Statistics and Research at 717-783-2548. Additional Pennsylvania cancer statistics are available on the Department of Health's [Cancer Statistics](#) webpage or from our interactive health statistics tool, [EpiQMS](#).

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¹ American Cancer Society. *Cancer Facts & Figures 2011*. Cancer Disparities and Premature Deaths. Atlanta: American Cancer Society; 2011.

² Winkleby MA, Jatulis DE, et al. Socioeconomic Status and Health: How Education, Income, and Occupation Contribute to Risk Factors for Cardiovascular Disease. *American Journal of Public Health*. 1992; 82(6):816-820.