

STATISTICAL NEWS

PA Department of Health ♦ Bureau of Health Statistics and Research ♦ Vol. 27 No. 3 ♦ May 2004

Major Changes Planned for EpiQMS Web Tool

New Features Will Improve Access To More Health Statistics/Analysis

EpiQMS, the Bureau's interactive health statistics web tool has been updated with 2002 death and 2001 cancer incidence statistics. In addition, we have added some new features to EpiQMS and have plans to incorporate more changes that will provide users with an even more comprehensive tool for accessing and analyzing health statistics online.

EpiQMS (Epidemiologic Query and Mapping System) was added to our web pages back in September, 2003. EpiQMS allows users to create customized data tables, charts, maps, and county profiles of birth, death, cancer, and population statistics online. Single and multiple-year statistics are now available from 1990 to 2002 for births, deaths, and population statistics and from 1990 to 2001 for cancer incidence statistics. In addition, we have added "early" and "late" stage summary diagnoses statistics to the staging menu list in the cancer dataset that previously only included each stage category separately (in situ, local, regional, distant).

...we have identified (these improvements) as important for providing state-of-the-art access to health statistics and analysis among data users...

Staff are also working on future changes to EpiQMS that will include the following:

- Display all county rates/ratios/percents that are significantly higher than the state in **red** or in **blue** if significantly lower
- Add Behavioral Risk data as a new dataset
- Add municipality level data for births, deaths and cancer (currently only available for population dataset)
- Add a County Assessment module for each dataset that will allow the user to output all rates/ratios/percents for a specific county that are significantly higher or lower than the state

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Major Causes of Death Vary by Race and Sex

Top Ten Causes of Death by Race, Ethnicity & Sex Reveal Disparities

During the years 2000-2002, homicide and HIV disease were among the top ten leading causes of death for both black and Hispanic males in Pennsylvania but not among white male residents. Instead of homicide and HIV disease, suicide and flu/pneumonia were among the top ten causes of death for white males.

Among females, HIV disease was also in the top ten list of leading causes of death for blacks and Hispanics but again not for whites. Alzheimer's disease was in the top ten for white females but did not appear in the lists for black, Hispanic or Asian/Pacific Islander female residents.

These disparities and many others were apparent when reviewing the top ten leading causes of death among males and females by race (white, black, Asian/Pacific Islander) and by Hispanic origin for the three-year period of 2000-2002. A review of age-adjusted death rates for that period among these groups also showed that the highest rates occurred among black

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...homicide and HIV disease were among the top ten leading causes of death for both black and Hispanic males in Pennsylvania but not among white male residents.

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DEPARTMENT OF
HEALTH

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Tools of the Trade: Part 2 - Application and Use

Cancer Trend Analysis Using Joinpoint Regression

This article serves as the second and final part of a series titled *Cancer Trend Analysis Using Joinpoint Regression*. The first article appeared in the March 2004 issue of *Statistical News* and can be obtained from the Bureau of Health Statistics and Research web page at www.health.state.pa.us/stats.

It provided an introduction to trend analysis using the Joinpoint Regression Program as developed by the National Cancer Institute. In this final article, the joinpoint regression program was used to analyze cancer incidence and mortality trends for all cancers combined and the four most common cancers by gender and race.

Top Four Cancer Sites:

In 2000, the top four cancer sites of lung/bronchus, female breast, prostate, and colon/rectum represented 56.2% of all invasive cancer cases reported to the Pennsylvania Cancer Registry and 51.3% of all Pennsylvania cancer deaths. For cancers of the lung/bronchus, prostate, and colon/rectum, blacks had higher observed incidence and mortality rates than whites. For female breast cancers, the incidence rate was lower among black females, compared to whites, but higher for the corresponding mortality rate.

Background on Joinpoint Trend Analysis:

The Joinpoint Regression Program was used to find the best-fit line through several years of data by utilizing an algorithm that tests whether a multi-

...joinpoint trend analysis of Pennsylvania cancer mortality rates show that progress is being made in reducing the cancer burden among residents...

segmented line is a significantly better fit than a straight or less-segmented line. Trends for cancer incidence and mortality data were described via joinpoint regression analysis, which involves fitting a series of joined straight lines on a log scale to the trends in the annual age-adjusted rates. Line segments were joined at points called joinpoints. Each joinpoint denotes a statistically significant ($P = .05$) change in trend. The tests of significance use a Monte Carlo Permutation method (i.e. it finds "the best fit" line for each segment). In our analysis, a maximum of three joinpoints (four line segments) was allowed for each model.

Once the line segments are established, the estimated annual percent change was used to describe and test the statistical significance of the trends. Testing the hypothesis (two-sided P value = .05) that the annual percent change is equal to zero is equivalent to testing the hypothesis that the trend in incidence or mortality rates is neither increasing nor decreasing.

Cancer Incidence Trends:

Table 1 displays the results of the joinpoint trend analysis for

cancer incidence. According to the analysis, Pennsylvania cancer incidence rates for all cancer sites combined have been increasing by 1.2% per year for the sixteen-year period of 1985 through 2000. Among females, rates for all cancer sites combined have been increasing by 0.9% per year for this same time period. Among males, the long-term incidence rates for all cancer sites were relatively stable for 1985 through 1987, increased by 3.7% per year until 1992, and then stabilized. Recent incidence rates (1995-2000) for white males increased by 0.8% per year, whereas the recent rates for black males decreased by 1.2% per year. However, the incidence rates for black males have been consistently higher than whites. In fact, the average annual age-adjusted incidence rate (1996-2000) among black males was nearly 29 percent higher than the rate for white males. Among white and black females, the long-term trend rates have increased by 0.9% and 1.1% per year, respectively.

Based on the joinpoint analysis, lung/bronchus cancer incidence rates increased by 1.3% per year from 1985 to 1998. The decrease during 1998 through 2000 was not statistically significant. The joinpoint analysis showed a change in trend for males in 1997. However, neither of the estimated annual percent changes for the two trends was significantly different than zero. Lung cancer incidence rates among females have increased by 3.2% per year from

1985 through 1998. Since 1998, the incidence rates for females have been relatively stable (i.e. the decreasing trend that started in 1998 was not statistically significant at the 95% confidence level).

In Pennsylvania, breast cancer represents the leading cancer site for females and was the second most frequent cause of cancer mortality among females. The long-term joinpoint trends for female breast cancer incidence rates increased by 0.7% per year throughout the 16-year period of 1985-2000. Breast cancer rates for black females increased by 1.1% per year for this same time period. Since 1987, no discernable trend was observed for breast cancer rates among white females. However, the average annual age-adjusted (1996-2000) breast cancer rate for white females was over 8% higher than the rate for black females.

In Pennsylvania, prostate cancer incidence rates were much higher for blacks compared to white males. This supports the fact that black males in the United States have been reported to have the highest incidence of prostate cancer than any group in the world. Prostate cancer incidence rates increased dramatically in the late 1980s and early 1990s. Since the mid to late 1980s, increased basic screening procedures have become more prevalent among physicians and clinics, especially for patients of advanced ages, thereby affecting the number

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TABLE 1
Pennsylvania Invasive Cancer Incidence Rates* (1996-2000) and Trends (Joinpoint Analyses for 1985-2000)
for All Cancers and the Top Four Cancer Sites by Sex and Race

Site/Sex/Race	Average Annual Rate* (1996-2000)	Joinpoint Analyses (1985-2000)							
		Trend 1		Trend 2		Trend 3		Trend 4	
		Years	APC**	Years	APC**	Years	APC**	Years	APC**
All Cancer Sites	486.1	1985-2000	1.2 [^]						
Male	579.3	1985-1987	-0.6	1987-1992	3.7 [^]	1992-2000	0.0		
Male White	560.3	1985-1987	-0.7	1987-1992	4.0 [^]	1992-1995	-1.7 [^]	1995-2000	0.8 [^]
Male Black	721.3	1985-1989	0.7	1989-1993	6.5 [^]	1993-2000	-1.2 [^]		
Female	426.3	1985-2000	0.9 [^]						
Female White	421.1	1985-2000	0.9 [^]						
Female Black	431.2	1985-2000	1.1 [^]						
Lung and Bronchus	69.5	1985-1998	1.3 [^]	1998-2000	-1.3				
Male	95.4	1985-1997	0.1	1997-2000	-1.4				
Male White	92.0	1985-1996	0.2	1996-2000	-1.0				
Male Black	136.9	1985-2000	-0.2						
Female	51.2	1985-1998	3.2 [^]	1998-2000	-0.7				
Female White	49.6	1985-1997	3.2 [^]	1997-2000	1.2				
Female Black	68.5	1985-1998	3.6 [^]	1998-2000	-8.7				
Female Breast	130.5	1985-2000	0.7 [^]						
Female White	129.6	1985-1987	5.3	1987-2000	0.4				
Female Black	119.9	1985-2000	1.1 [^]						
Prostate	163.9	1985-1989	5.3 [^]	1989-1992	21.1 [^]	1992-1995	-6.7 [^]	1995-2000	1.6
Male White	153.4	1985-1989	5.4 [^]	1989-1992	20.9 [^]	1992-1995	-7.7 [^]	1995-2000	1.8 [^]
Male Black	256.5	1985-1989	3.0	1989-1992	23.1 [^]	1992-2000	-2.0 [^]		
Colon and Rectum	62.0	1985-1987	-4.6	1987-2000	-0.4 [^]				
Male	74.7	1985-2000	-0.7 [^]						
Male White	74.0	1985-1995	-1.4 [^]	1995-2000	0.6				
Male Black	76.6	1985-2000	0.3						
Female	52.7	1985-2000	-0.8 [^]						
Female White	52.0	1985-2000	-0.9 [^]						
Female Black	56.1	1985-2000	-0.1						

TABLE 2
Pennsylvania Invasive Cancer Death Rates* (1997-2001) and Trends (Joinpoint Analyses for 1985-2001)
for All Cancer Deaths and the Top Four Cancer Sites by Sex and Race

Cause/Sex/Race	Average Annual Rate* (1997-2001)	Joinpoint Analyses (1985-2001)							
		Trend 1		Trend 2		Trend 3		Trend 4	
		Years	APC**	Years	APC**	Years	APC**	Years	APC**
All Cancer Sites	206.3	1985-1990	0.5	1990-2001	-0.8 [^]				
Male	256.8	1985-1991	0.5	1991-2001	-1.3 [^]				
Male White	250.7	1985-1991	0.4	1991-2001	-1.1 [^]				
Male Black	370.8	1985-1989	1.8	1989-2001	-1.5 [^]				
Female	173.6	1985-1990	0.6	1990-2001	-0.6 [^]				
Female White	170.1	1985-1990	0.5	1990-2001	-0.6 [^]				
Female Black	229.4	1985-2001	-0.0						
Lung and Bronchus	55.8	1985-1991	1.3 [^]	1991-2001	-0.5 [^]				
Male	78.5	1985-1988	1.4	1988-2001	-1.4 [^]				
Male White	76.5	1985-2001	-1.0 [^]						
Male Black	115.7	1985-1987	7.3	1987-2001	-2.0 [^]				
Female	40.0	1985-1992	3.9 [^]	1992-2001	0.7 [^]				
Female White	39.0	1985-1990	4.9 [^]	1990-2001	1.2 [^]				
Female Black	56.2	1985-2001	1.8 [^]						
Female Breast	28.7	1985-1990	1.5	1990-2001	-2.6 [^]				
Female White	28.0	1985-1990	1.4	1990-2001	-2.7 [^]				
Female Black	39.4	1985-2001	-0.2						
Prostate	30.2	1985-1991	4.6 [^]	1991-2001	-3.0 [^]				
Male White	28.2	1985-1991	4.5 [^]	1991-2001	-3.0 [^]				
Male Black	64.4	1985-1992	3.6	1992-2001	-3.0 [^]				
Colon and Rectum	23.1	1985-2001	-1.8 [^]						
Male	28.0	1985-2001	-1.8 [^]						
Male White	27.7	1985-2001	-1.9 [^]						
Male Black	36.2	1985-2001	-0.8						
Female	19.7	1985-2001	-1.9 [^]						
Female White	19.3	1985-2001	-2.0 [^]						
Female Black	26.8	1985-2001	-1.1 [^]						

* Average annual age-adjusted rates are per 100,000 and are computed by the direct method using the 2000 U.S. standard million population.

** APC = annual percent change (based on rates that were age-adjusted to the 2000 U.S. standard million population) calculated by using joinpoint regression analysis.

[^] APC is significantly different from zero (two-side P<.05).

Note: Joinpoint analyses allowed for up to three joinpoints and are based on rates per 100,000 (age-adjusted to the 2000 U.S. standard population by 5-year age groups).

Continued from Page 1...

Major Changes Planned for EpiQMS Web Tool...

These major improvements will take quite a lot of work and some time to implement but we have identified them as important for providing state-of-the-art online access to health statistics and analysis among data users in Pennsylvania. We hope to have some of these changes in place by the end of the year. Look for updates on this project in

future editions of *Statistical News*.

Bureau staff are available to conduct an online demonstration or presentation of EpiQMS for your office, agency, meeting or conference, as well as provide hands-on training. Please contact the Bureau at 717-783-2548 to discuss the availability of these customer services.

Staff are available to conduct an online demonstration or presentation of EpiQMS for your office, meeting or conference...



To access EpiQMS, click on the EpiQMS logo above or go to www.health.state.pa.us/stats and click on the EpiQMS logo at the top of that web page.

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Top Ten Causes of Death by Race, Ethnicity & Sex...

males and the lowest rates among Asian/Pacific Islanders of both sexes. Hispanics (especially females) also tended to have somewhat lower rates than both blacks and whites. The data table on the next page displays the top ten leading causes of death by number and age-adjusted death rate for 2000-2002 by sex and race/Hispanic origin. (Please note that Hispanics are considered an ethnicity here and can be of any race.)

A comparison of the top ten leading causes for males by race/Hispanic origin showed that the list was very similar for whites and Asians/Pacific Islanders. These two groups shared nine causes in their top ten lists, albeit in somewhat different order. The only difference was that septicemia appeared in the list for whites while perinatal conditions appeared in the list for Asians/Pacific Islanders. In comparing the lists for white and black males, homicide and HIV disease were in the list for blacks while suicide and flu/pneumo-

Alzheimer's disease was in the top ten for white females but did not appear in the lists for black, Hispanic or Asian/Pacific Islander residents.

nia appeared in the list for whites. Homicide and HIV disease also appeared in the list for Hispanic males but so did liver disease/cirrhosis and perinatal conditions. Suicide appeared in the list for Hispanics but CLRD (chronic lower respiratory disease), flu/pneumonia, nephritis/nephrosis, and septicemia did not.

Among females by race and Hispanic origin, the top ten lists had somewhat fewer differences than the male lists. Alzheimer's disease only appeared in the list for whites and accounted for the only difference between the white and black lists. HIV disease appeared in the list for blacks

instead of Alzheimer's. HIV disease also made the Hispanic female list, as did perinatal conditions (instead of flu/pneumonia as appeared in the lists for whites and blacks). In the list for Asian/Pacific Islander females, the smaller numbers of deaths resulted in a three-way tie for tenth place that makes reliable comparisons more difficult. However, the ninth leading cause (suicide) and one of the three that tied for tenth place (birth defects) did not appear in any of the other female lists.

Age-adjusted death rates tended to be much higher among males of all races/Hispanic origin compared to the females, except for Asian/Pacific Islander males whose rates were generally lower than the rates for white, black and Hispanic females. Asian/Pacific Islander females usually had the lowest rates of any racial/ethnic group by sex while black males generally had, by far, the highest rates. The rates for Hispanics of both sexes were generally some-

what lower than the rates for whites and blacks.

The lower rates for Hispanics are probably somewhat related to the fact that the Hispanic population in Pennsylvania is much younger, compared to whites and blacks. For example, the median age for Hispanics in Pennsylvania was estimated at 24.9 in 2002, compared to 31.0 for blacks and 39.7 for whites. With such a large age gap, even calculation of age-adjusted rates cannot completely eliminate the bias of age for the most common causes of death, usually chronic conditions such as heart disease, cancer, and stroke.

The median age for the Asian/Pacific Islander population in Pennsylvania was estimated at 30.2 in 2002, much lower than whites but similar to blacks. In this case, socioeconomic factors and the relatively small number of Asians/Pacific Islanders in Pennsylvania probably account for some of the disparities in these rates.

**Leading Causes of Death by Race/Hispanic Ethnicity and Sex
Number and Age-Adjusted Death Rate*, Pennsylvania Residents, 2001**

WHITE MALES			BLACK MALES			HISPANIC MALES		
Cause of Death	Number	Rate*	Cause of Death	Number	Rate*	Cause of Death	Number	Rate*
All Causes	55,159	1032.4	All Causes	5,985	1502.8	All Causes	810	921.4
Heart Disease	16,931	317.5	Heart Disease	1,481	400.8	Heart Disease	152	240.1
Cancer	13,656	247.3	Cancer	1,332	354.8	Cancer	133	194.7
Stroke	2,864	54.6	Homicide	339	55.8	Accidents	96	46.7
CLRD**	2,645	49.1	Accidents	291	57.3	Homicide	45	19.1
Accidents	2,576	50.5	Stroke	270	76.7	HIV Disease	33	22.5
Diabetes Mellitus	1,491	27.2	HIV Disease	225	44.0	Stroke	32	54.1
Flu & Pneumonia	1,143	22.3	Diabetes Mellitus	194	50.5	Suicide	25	11.6
Nephritis/Nephrosis	1,143	21.7	Septicemia	188	51.3	Diabetes Mellitus	21	29.0
Suicide	973	18.7	Nephritis/Nephrosis	173	46.1	Liver Dis/Cirrhosis	21	17.3
Septicemia	930	17.4	CLRD**	164	46.4	CLRD**	17	27.3

WHITE FEMALES			BLACK FEMALES			HISPANIC FEMALES		
Cause of Death	Number	Rate*	Cause of Death	Number	Rate*	Cause of Death	Number	Rate*
All Causes	61,832	711.5	All Causes	5,992	977.7	All Causes	489	522.9
Heart Disease	19,371	206.8	Heart Disease	1,494	242.6	Cancer	110	112.9
Cancer	13,391	171.2	Cancer	1,333	222.1	Heart Disease	102	137.6
Stroke	4,940	52.1	Stroke	458	74.4	Stroke	30	42.0
CLRD**	2,843	32.7	Septicemia	253	41.6	Accidents	27	17.9
Diabetes Mellitus	1,876	22.4	Diabetes Mellitus	234	38.8	CLRD**	20	26.6
Alzheimer's Dis.	1,859	18.2	Nephritis/Nephrosis	201	33.1	Diabetes Mellitus	20	26.0
Accidents	1,442	20.3	CLRD**	178	29.4	HIV Disease	17	9.9
Flu & Pneumonia	1,406	14.5	Accidents	160	25.7	Nephritis/Nephrosis	16	21.0
Nephritis/Nephrosis	1,293	14.3	Flu & Pneumonia	110	17.6	Homicide	12	5.2
Septicemia	1,259	14.3	Alzheimer's Dis.	108	17.1	Septicemia	11	11.3

ASIAN/PACIFIC ISLANDER FEMALES			ASIAN/PACIFIC ISLANDER MALES		
Cause of Death	Number	Rate*	Cause of Death	Number	Rate*
All Causes	239	407.8	All Causes	269	508.0
Cancer	65	91.4	Cancer	63	119.5
Heart Disease	51	108.2	Heart Disease	60	130.8
Stroke	22	44.8	Stroke	24	52.1
Accidents	19	21.1	Accidents	22	22.9
Diabetes Mellitus	8	N/C	Nephritis/Nephrosis	10	15.1
Septicemia	7	N/C	Flu & Pneumonia	8	N/C
Nephritis/Nephrosis	5	N/C	Septicemia	8	N/C
Suicide	5	N/C	Diabetes Mellitus	6	N/C
			Suicide	6	N/C

A review of age-adjusted death rates... among these groups also showed that the highest rates occurred among black males and the lowest rates among Asians/Pacific Islanders of both sexes.

*Age-adjusted per 100,000 U.S. 2000 standard million population **Chronic Lower Respiratory Disease

NOTES: Hispanics can be of any race. Causes with less than 5 deaths are not shown/ranked.

N/C = rate not calculated if less than 10 deaths due to unreliability

SOURCE: Pennsylvania Department of Health, Bureau of Health Statistics and Research

Two Long-Time Health Statistics Staff to Retire

Linda Ames Mann and Dawn M. Sunday Will Be Leaving in June

Two long-time staff members of the Bureau of Health Statistics and Research will be retiring in June. Linda Ames Mann, Director of the Division of Statistical Support, will be retiring after 35 years of state service. Ms. Mann is one of the few remaining original staff members of the Bureau when it was first organized back in October, 1975. Dawn M. Sunday, has 33 years of service with the Commonwealth, all with the Department of Health and 26 of those years have been with the Bureau.

Linda has worked with almost every Department program office, many other state and local public health agencies, and all types of health data users either in designing survey forms, ensuring the quality of data presentation, analyzing data, or reviewing publications and reports.

She has also served, for many years, as the state's BRFSS (Behavioral Risk Factor Surveillance System) grant coordinator. BRFSS data have become one of the most useful sources of state level statistical information, providing data on smoking, nutrition, chronic diseases prevalence, and lots of other statistics that are essential for many public health planning/assessment purposes.

Linda and her staff have also been successful in implementing a local BRFSS data option, which enables local health planning agencies/groups to match state funding for over-sampling to collect BRFSS data at the local level. This unique program is offered by few, if any, other states.

Linda was also recently recognized during National Public Health Week in April as an outstanding employee of the Department of Health.

Staff...would like to take this opportunity to thank both Linda and Dawn for the many years of dedicated and excellent service they have provided to us and so many others.

Dawn has earned her status as a well-respected statistician in the Bureau for many reasons. She has provided data and statistical services to thousands of data requestors over the years, especially for abortion and pregnancy statistics. She has been instrumental in helping the Department's annual report of vital statistics, *Pennsylvania Vital Statistics*, evolve into one of the best such state reports in the country in terms of data quality and graphic/tabular presentation.

She has also been responsible for producing another popular statistical series, *County Health Profiles*.

Dawn has been an invaluable source of assistance with complex and older data files and computer programs to other statistical staff in the Bureau. Her proofing skills are undeniably the best ever seen among us here and have greatly assisted us in ensuring the accuracy and quality of so many of our data products in hard copy and electronic formats. A true test of the quality of a newly created data base has always been to run it past Dawn for her usual intense scrutiny. Very few if any have passed by her with no errors detected.

Bureau staff would like to take this opportunity to thank both Linda and Dawn for the many years of dedicated and excellent service they have provided to us and so many others.

Looking Back: 25 Years of the *Statistical News*

First Appeared in 1979 and It Continues To Serve Health Data Users

The *Statistical News* was launched in October 1979 – a single sheet of paper typed on both sides and primarily intended for the Department of Health statistical staff. The *Statistical News* of today is eight pages long and read by statistical folks across the country on the Health Statistics web site at www.health.state.pa.us/stats.

Several innovations contributed to the success of the newsletter. In 1983, a series started entitled "Tools of the Trade." These were simple

"how to" articles for non-statisticians on rates, ratios, charts and graphs, surveys, population pyramids, etc. The articles were very popular and many years later were updated and added to the Health Statistics web site as our "Technical Assistance" web pages.

Another feature added to the newsletter in 1995 were updates of Pennsylvania's progress toward meeting CDC's Healthy People 2000 (and 2010) national health objectives. These updates began as supplements to the reports

that were published every five years assessing Pennsylvania's performance. Today, updated information for the most recent five-year period is available, for each objective for which Pennsylvania data exist, on the Health Statistics web site under "Healthy People 2010."

Statistical News reflects the many changes that have taken place during the past 25 years. The articles in the early issues were primarily about births, deaths, marriages, and divorces (vital statistics.) Readers will still see articles

on these topics, but they will also read about cancer incidence, Behavioral Risk Factor Surveillance System findings, GIS services, cigarette sales to minors, new publications available in hard copy and on the web site, our new interactive web site EpiQMS, etc.

The newsletter that began so inauspiciously has grown into a well-respected web journal and is a tribute to the many Health Statistics staff who have contributed articles and to long time editors, Jerry Orris and Dawn Sunday.

Update: Healthy People 2010 Objectives

Focus Area 15 - Injury and Violence Prevention

15-13 - Reduce unintentional injury deaths.

All Deaths and by Sex and Race/Hispanic Origin:

The age-adjusted death rate for unintentional injuries among all Pennsylvania residents has increased between 1998 and 2002, from 32.6 to 35.1. Rates for males were more than twice those for females (e.g., 50.3 vs. 21.6 in 2002). However, while female rates have shown no trend between 1998 and 2002, the rates for males have been on the increase, from 45.8 to 50.3.

The 2002 age-adjusted death rates for whites (35.8), blacks (36.2), and Hispanics (37.4) were similar. However, while the rates between 1998 and 2002 have been declining for blacks, the rates for whites have been on the increase. The 1998-2002 annual rates for Hispanics showed no discernible trend.

The rates for all deaths, males, whites, blacks, and Hispanics are well above the na-

tional HP2010 objective of 17.5 and the rates for whites and males seem to be on the increase.

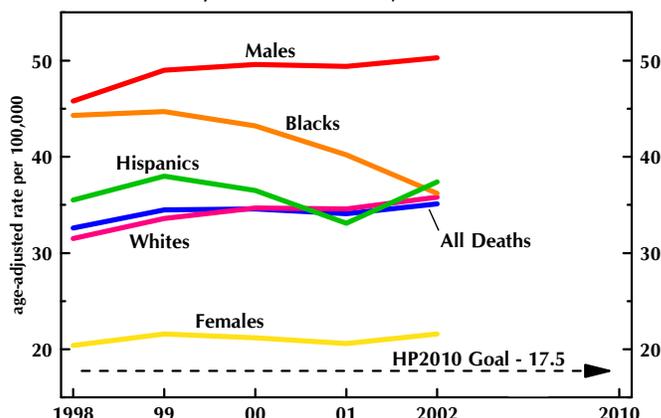
Males By Race and Hispanic Origin:

The bottom graph on the right depicts age-adjusted unintentional injury death rates for black, white, and Hispanic males. The 2002 rate for black males was the highest (56.4) but the rates for white males (51.1) and Hispanic males (53.2) were not that much lower. Also, the annual rates for black males have been on the decline since 2000 while the rates for white males have been consistently on the increase. The annual rates for Hispanic males showed no obvious trend.

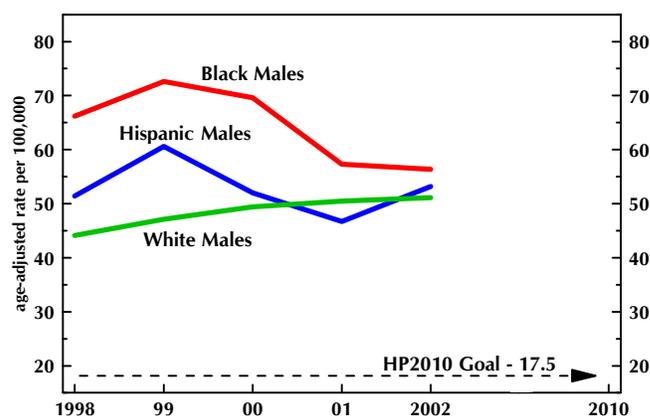
All of these rates for males are far above the HP2010 goal of 17.5 and only the rate for blacks shows any recent decline.

2010 Target: 17.5 deaths per 100,000

Unintentional Injury Age-Adjusted Death Rates*
All Deaths and by Sex, Race, and Hispanic Origin**
Pennsylvania Residents, 1998-2002



Males by Race & Hispanic Origin**, Pennsylvania, 1998-2002



Unintentional Injury Age-Adjusted Death Rates*
By Sex, Race, and Hispanic Origin
Pennsylvania Residents, 1998-2002

	2002	2001	2000	1999	1998
All Deaths	35.1	34.1	34.6	34.5	32.6
Males	50.3	49.4	49.5	49.0	45.8
Females	21.6	20.6	21.2	21.6	20.4
Whites	35.8	34.6	34.7	33.6	31.5
Blacks	36.2	40.2	43.2	44.7	44.3
Hispanics**	37.4	33.1	36.5	38.0	35.5
Black Males	56.4	57.3	69.6	72.6	66.2
Hispanic** Males	53.2	46.7	52.0	60.6	51.4
White Males	51.1	50.5	49.4	47.1	44.1

*per 100,000 2000 U.S. standard million population

**Hispanic can be of any race

HP2010 State and County Data on the Web

To access the Department of Health's web page of Healthy People 2010 statistics for the state and counties, go to www.health.state.pa.us/stats. The latest available statistics as well as trend data are shown. You can view data for the state, all counties, a specific demographic element (age, sex, race, etc.) or just for a specific county. Complete data sets for the state and counties can be downloaded. There is also a link to the national HP2010 web site.

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Cancer Trend Analysis...

of cases detected and reported. Based on this analysis, prostate cancer incidence rates among white males decreased by 7.7% from 1992 to 1995, and increased by 1.8% beginning in 1995. Rates for black males decreased by 2.0% per year beginning in 1992.

According to the joinpoint analysis, colon and rectum cancer incidence rates have decreased 0.4% per year from 1987 through 2000. For males and females, the long-term trend rates have decreased 0.7% and 0.8% per year, respectively. The colorectal cancer incidence rates for black males and females have remained relatively stable throughout the sixteen-year period of 1985-2000.

Cancer Mortality Trends:

Table 2 displays the results of the joinpoint trend analysis for cancer mortalities. Pennsylvania age-adjusted death rates for all cancer sites (combined) remained relatively stable for 1985 through 1990 (i.e. the slight increase in rates for this time period was not statistically significant at the 95% confidence level). Cancer death rates

decreased by 0.8% per year from 1990 through 2001. Cancer death rates among males decreased by 1.3% per year from 1991 through 2001. Similar trends were observed for both white and black males. Death rates among white females decreased by 0.6% per year beginning in 1990. Among black females, the cancer death rates have shown no discernable trends throughout the 17-year period of 1985-2001.

Joinpoint trends for lung and bronchus cancer death rates increased by 1.3% per year from 1985 through 1991, then decreased by 0.5% per year for the period of 1991-2001. Long-term trend rates for white males decreased by 1.0% per year throughout the 17-year period of 1985-2001. Death rate trends for black males decreased by 2.0% per year beginning in 1987. Lung cancer death rates among white females increased by 4.9% per year from 1985 through 1990. This increase slowed to 1.2% per year beginning in 1990. Long-term trend rates for black females

increased by 1.8% per year from 1985 through 2001.

Breast cancer death rates for white females decreased by 2.7% per year beginning in 1990. Among black females, no discernable trends were identified for breast cancer death rates during the 17-year period of 1985-2000.

Overall, prostate cancer death rates increased by 4.6% per year from 1985 through 1991, and decreased by 3.0% beginning in 1991. The trend pattern was similar for both white and black males.

Long-term trends in colon and rectum cancer death rates decreased by 1.8% and 1.9% for males and females, respectively, throughout the 17-year period of 1985 through 2001. Larger decreases in death rates were observed among whites compared to blacks.

Conclusions:

The joinpoint analysis of the trends in the age-adjusted cancer incidence and mortality rates allows the user to “systematically” interpret changes over time and, more importantly, to determine if those changes are statistically significant.

Overall, joinpoint trend analysis of Pennsylvania can-

cer mortality rates show that progress is being made in reducing the cancer burden among residents of the Commonwealth. The age-adjusted cancer mortality rates have shown a significant decline since the early 1990s for both men and women. Medical advances along with the growth in cancer knowledge, technology, and resources have contributed to this progress. Although the age-adjusted cancer incidence rates among women have risen significantly between 1985 and 2000, the incidence rates have been rather stable among men since 1992. Further reductions in the cancer burden will require continued efforts in the development, delivery, and surveillance of effective cancer prevention, early detection, and treatment strategies.

Additional Pennsylvania cancer statistics can be obtained from our web site at www.health.state.pa.us/stats or by contacting the Bureau at (717) 783-2548. Also, the Bureau has recently developed an interactive web tool, called EpiQMS, for health data users to create customized data tables, charts, maps, and county profiles of birth, death, cancer, and population statistics on-line. Use the above URL to access EpiQMS.

This two-part series was inspired by the “Annual Report to the Nation on the Status of Cancer, 1975-2000, Featuring the Uses of Surveillance Data for Cancer Prevention and Control” as published in the September 3, 2003 (Vol. 95, No. 17, pages 1276-1299), issue of the Journal of the National Cancer Institute. This national report and other cancer publications are available from the National Cancer Institute web site at www.seer.cancer.gov.

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