

# STATISTICAL NEWS

PA Department of Health ♦ Bureau of Health Statistics and Research ♦ Vol. 28 No. 2 ♦ March 2005

## Data for Municipalities Available on EpiQMS

*Municipal Data for Births, Deaths and Cancer Incidence Available Online*

The latest enhancement to EpiQMS, the Bureau's interactive health statistics web tool, includes the addition of municipality modules for the Death, Birth, and Cancer Incidence data files. Population data at the municipality level is also available through EpiQMS. The addition of these modules provides users with an even more comprehensive tool for analyzing health statistics online.

The EpiQMS (Epidemiologic Query and Mapping System) web tool allows users to create customized data tables, charts, maps, county profiles, and county assessments of birth, death, cancer incidence, population, and BRFSS statistics online.

In EpiQMS, only numbers of events are available at the municipality level. Rates are not computed or displayed due to the small number of events and lack of detailed population estimates.

The menus and menu selections may vary for each dataset at this level of geography and only data tables can be produced. Charts and maps are not an available option. The data items listed within the output tables may also vary for each dataset.

The addition of these (municipality) modules provides users with an even more comprehensive tool for analyzing health statistics online.

The amount of detail or demographic breakdown of the data at the municipality level is very limited. Death counts for the municipalities are limited to 17 specific causes of death (plus total deaths) and can be broken down by gender and year of death. Cancer incidence cases are available at the same level of detail as the death data but are limited to 23 specific cancer sites/types (plus total cancers). Birth and population data at the municipal level are both only available by year.

To access EpiQMS, go to the Bureau of Health Statistics and Research web pages at [www.health.state.pa.us/stats](http://www.health.state.pa.us/stats) and click on the EpiQMS logo. Step-by-step instructions and detailed help sections are available to assist EpiQMS users.

## Firearm-Related Deaths Up for Second Straight Year

*PA Rate Lower Than U.S. Rate; Highest Rates for Young Black Males*

The age-adjusted death rate for firearm-related injury deaths among Pennsylvania residents increased slightly in 2003. This marked the second consecutive year in which the rate slightly increased. The age-adjusted death rate among males was approximately eight times higher than the rate for female residents.

There are three major types of firearm-related deaths: suicide, homicide and accidental (see Chart 1 on page 4). The most prevalent type in the year 2003 was suicide. Suicide by discharge of firearms (722 deaths) made up 59.2 percent of all firearm-related deaths among Pennsylvania residents. Homicide by discharge of firearms (459 deaths) was second at 37.6 percent and accidental discharge of firearms (20) accounted for 1.6 percent.

The following will review statistics on firearm-related deaths in Pennsylvania compared to the United States and for Pennsylvania by age, sex, race, and county.

### Pennsylvania and United States Comparisons:

There were 1,220 resident deaths due to firearm-related injuries in

Suicide by discharge of firearms ...made up 59.2% of all firearm-related injury deaths for Pennsylvania residents.

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DEPARTMENT OF HEALTH

Edward G. Rendell, Governor  
Calvin B. Johnson, M.D., M.P.H.  
Secretary of Health

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# Why Is It Important to Geocode Health Data?

Part 2 of a Five Part Geocoding Series Appearing in Statistical News

Geocoded health data is used in the Pennsylvania Department of Health (PADOH) by epidemiologists to track disease outbreaks, by health planners to identify areas of the state with a shortage of health professionals, and by policy makers to implement health improvement programs in areas where there continue to be public health issues of concern. These are just a few reasons why geospatial technologies and geocoded health data are important in our state.

The main reason that health data are geocoded is for mapping purposes. Health data can be geocoded and mapped to specific locations or the data can be aggregated to geographic levels like county, minor civil division, or census tract. Once the data are aggregated, they can then be grouped into data ranges using methods like: equal interval, quantile, standard deviation, or natural breaks and can be displayed on a map using different colors or symbols. Someone can

**The main reason that health data are geocoded is for mapping purposes.**

then look at a map and begin to see how health data are distributed or concentrated across geography.

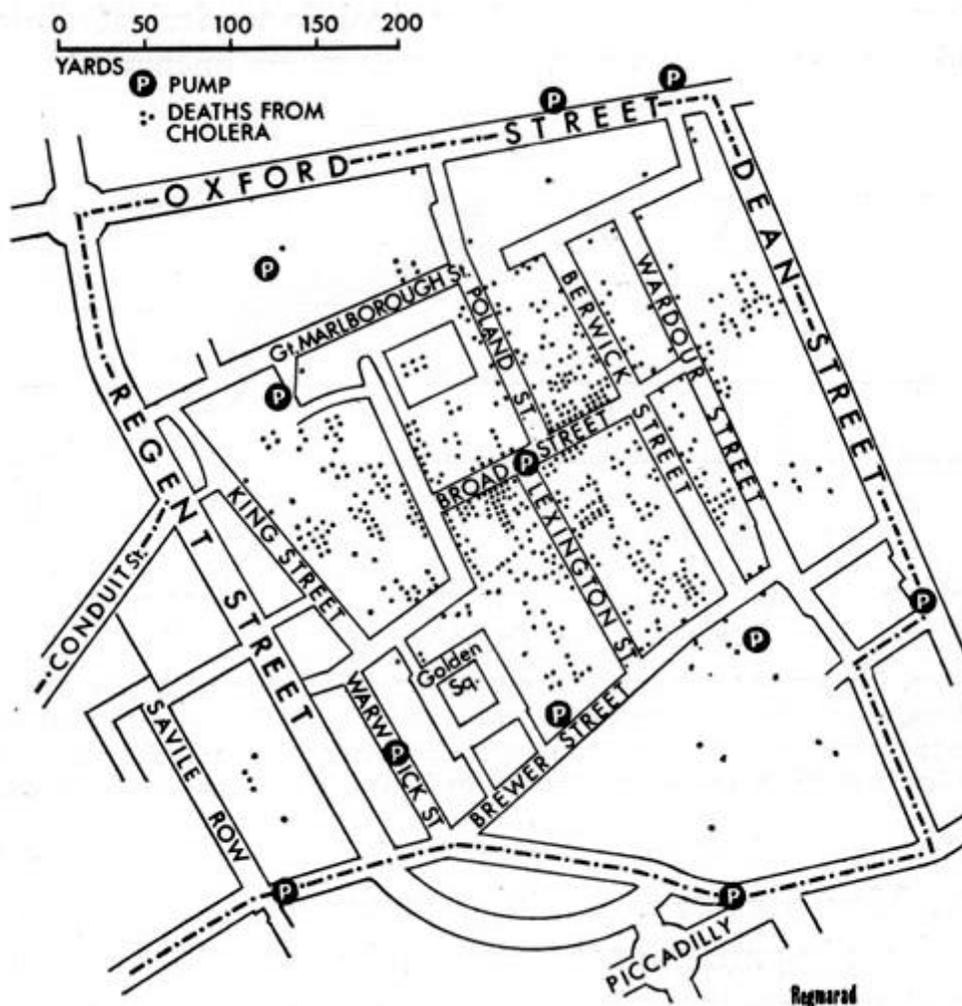
Health geography is nothing new. For hundreds of years, scientists have used disease data

and geography to attempt to locate the source or the cause of epidemics. In 1854 in London, a terrible cholera outbreak killed 600 people within a very small geographic area in just a few days. Dr. John Snow hypothesized that cholera was a result of ingestion because patients first had symptoms of stomachache and diarrhea. He was sure that the source was water, but needed proof.

Dr. Snow went to the Register of Deaths and requested a list of all of the local cholera deaths. He mapped the locations by hand similar to the map shown in Figure 1. The map showed a distinct concentration of cholera-related deaths around the Broad Street pump. After further investigation and interviews of the population throughout the area, Dr. Snow proved that the Broad Street pump was the source of the local cholera epidemic and the handle was removed. Upon even further investigation of the Broad Street pump area they found that a sewer flowed within yards of the Broad Street well and had contaminated the water.

Today, epidemiologists in PADOH use geocoded health data for disease investigation, for tracking, and for launching health initiatives. The PADOH recently teamed up with the federal Agency for Toxic Substances and Disease Registry (ATSDR) to map 53 suspected former lead smelter foundries that operated in the Commonwealth primarily before 1964 and which closed prior to today's strict environmental standards. The PADOH and ATSDR are suggesting that children under six who live near

Figure 1



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# Pennsylvania Immunization Registry Update

*The Registry Helps Protect Communities from Vaccine Preventable Diseases*

**I**mmunization coverage levels among two year-old children (24-35 months of age) in the Department of Health's public sites have been increasing, according to data collected in March 2004. Among children 24 to 35 months of age, 91% had been immunized with the 4:3:1:3:3 series (4 doses of an diphtheria and tetanus toxoids and pertussis vaccines including diphtheria and tetanus toxoids, and any acellular pertussis vaccine [DTP/DTaP/DT]; 3 doses of any poliovirus vaccine; 1 dose of measles-mumps-rubella vaccine; 3 doses of Haemophilus influenza type b vaccine; and 3 doses of hepatitis B vaccine).

In the chart below, the 4:3:1:3:3 series for children 24-35 months of age is compared for the six Pennsylvania Health Dis-

tricts for 2003 and 2004. The data used to determine these coverage levels were obtained from State Health Centers, County/Municipal Health Departments, and Community Health Projects throughout Pennsylvania. Please note that since registry providers are limited to these resources, it is estimated that approximately 2% of all Pennsylvania children 24-35 months of age are receiving immunizations at these sites and the percentage varies by health district (1% - 3%).

An increase in immunization coverage among two year-old children was observed for one of the Department's health districts between March 2003 and March 2004. The North Central District's immunization coverage increased by 6 percent. The largest decrease (2%) was

**The North Central District's immunization coverage increased by 6 percent.**

observed in the Northwest and Southeast Districts.

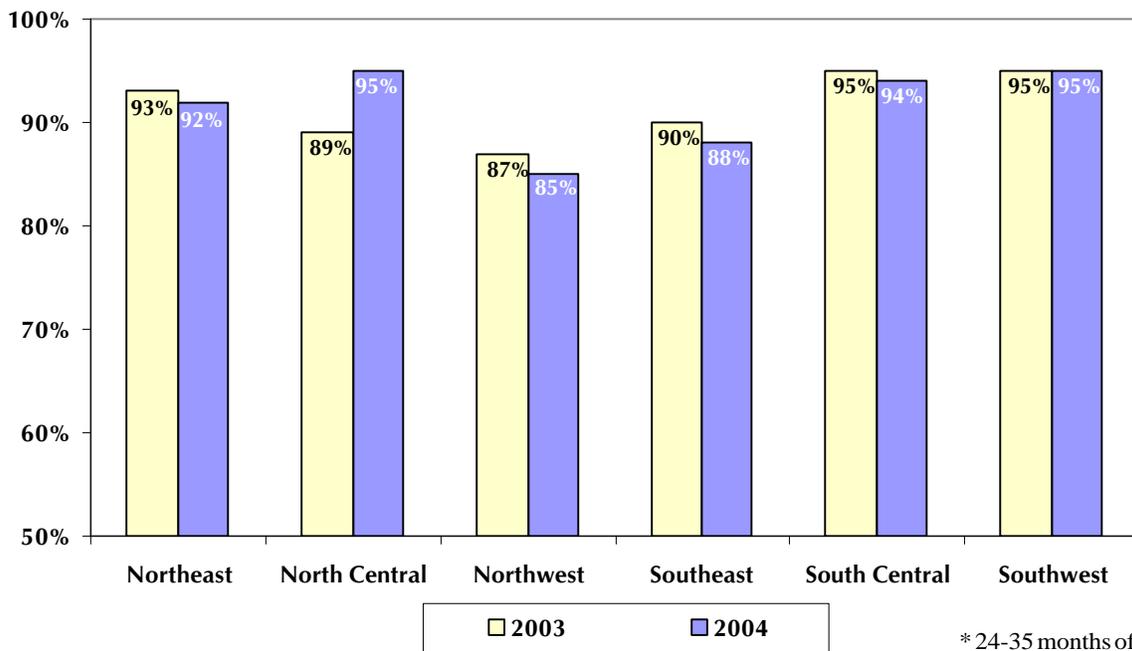
The data that are being presented for 2003 and 2004 were obtained from the Pennsylvania Immunization Registry. The Registry is a secure, real-time, Web-based data collection system that currently houses over 3 million documented immunizations. For participating providers, the Registry offers tools to quickly assess the immunization status of a patient, generate clinic profile assessment reports, and generate reminder/recall notices

for patients. The public health goal for the immunization registry is to protect communities from vaccine preventable diseases and to ensure all children in Pennsylvania are age appropriately immunized with the most efficient use of program resources. The immunization registry retains a patient record indefinitely.

Fifty-nine state health centers, six district offices, and nine of the ten county/municipal health departments (excluding Philadelphia which has its own county-wide registry) throughout the Commonwealth currently use the Registry. The Registry is in the process of incorporating the remaining Federally Qualified Health Centers and Rural Health Centers, with nine

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**Percentage of Children\* Immunized with 4:3:1:3:3 Series  
Pennsylvania Department of Health Districts  
March 2003 and March 2004**



# Firearm-Related Deaths Up for Second Straight Year

Pennsylvania during the year 2003 for an age-adjusted death rate of 9.8 per 100,000 2000 U.S. standard million population. The corresponding rate in 2002 (the most current year available) for the United States was 10.4 (6.1% higher than the rate for Pennsylvania).

A look at age-adjusted firearm-related death rates by race and sex also shows a higher rate for the U.S. (2002) as compared to the state (2003) except for blacks. The rates for males were 18.6 (U.S.) and 18.0 (PA). For females the rates were 2.8 (U.S.) and 2.2 (PA). The U.S. rate for whites was 9.2 compared to 7.2 for the state. However, the rate for blacks in PA (29.5) was higher than the rate in the U.S. (19.3).

### Race/Sex:

In 2003, the age-adjusted firearm-related death rate in Pennsylvania among blacks was approximately four times higher than the rate for whites – 29.5 compared to 7.2 among whites. Type of firearm-related deaths differed between these races. For whites, suicide by discharge of firearms was the leading type followed by homicide by discharge of firearms. For blacks, homicide ranked first followed by suicide.

On the next page, Chart 2 shows that most of the firearm-related deaths for Pennsylvania residents occurred among males.

The age-adjusted rate for firearm-related deaths among male residents (18.0) in 2003 was approximately eight times higher than the rate for females (2.2). There were 1,083 resident firearm-related injury deaths for males and only 137 for females. Thus, males accounted for over 88 percent of all firearm-related deaths among Pennsylvania residents for the year 2003. A closer look at male firearm-related deaths shows that 705 were among white males (age-adjusted rate of 13.2 per 100,000) while 368 were among black males (rate of 56.1).

### Age:

Reviewing the number of firearm-related injury deaths by age group for the three-year period of 2001-2003 showed that young adults had the highest figures. Chart 3, on the next page, shows that the age group 20-24 had the highest number, accounting for 14.5 percent of all firearm-related deaths. The second highest number occurred among those aged 25-29, followed by the age groups 40-44 and 30-34. Over 62 percent of all firearm-related deaths occurred among Pennsylvania residents between the ages

**Over 62% of all firearm-related deaths occurred among Pennsylvania residents between the ages of 15 and 44.**

of 15 and 44. Male firearm-related deaths occurred at younger ages than for females. There were 484 of these deaths among males aged 20-24 and 287 for males aged 40-44. For females there were only 37 firearm-related deaths for those between the ages of 20 and 24 and 56 for those aged 40-44.

### County:

Philadelphia County with a rate of 20.8 (based on 960 deaths) had the highest age-adjusted death rate for firearm-related injury during the three-year period of 2001-2003. The second highest rate occurred for Susquehanna County (rate of 15.3, based on 20 deaths). Third was Bedford County followed by Fayette and Bradford Counties. (Counties with less than 20 deaths were excluded since age-adjusted rates based on less than 20 events are considered statistically unreliable.)

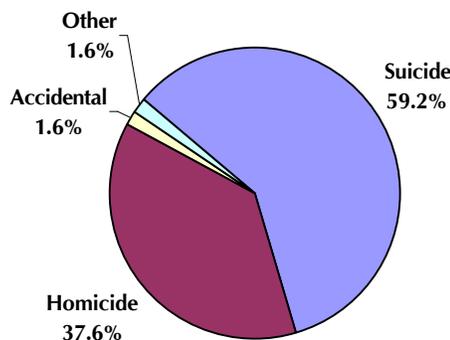
The county with the lowest age-adjusted firearm-related death rate for 2001-2003 was Cumberland County with a rate of 4.3 (based on 29 deaths). The second lowest rate was for residents of Chester County (4.8, based on 66 deaths) and Lancaster County (4.8, based on 69 deaths).

### Trends:

The age-adjusted firearm-related death rate for Pennsylvania has increased slightly for each of the past two years. However it has still generally declined since 2000 (rate of 10.1 in 2000 and 9.8 in 2003). The rate for whites has decreased each of the last three years while the rate for blacks is at its highest point in the past five years. The Healthy People 2010 national goal for firearm-related deaths is an age-adjusted rate of 4.1. Pennsylvania's 2003 rate of 9.8 is still a long way from meeting the goal.

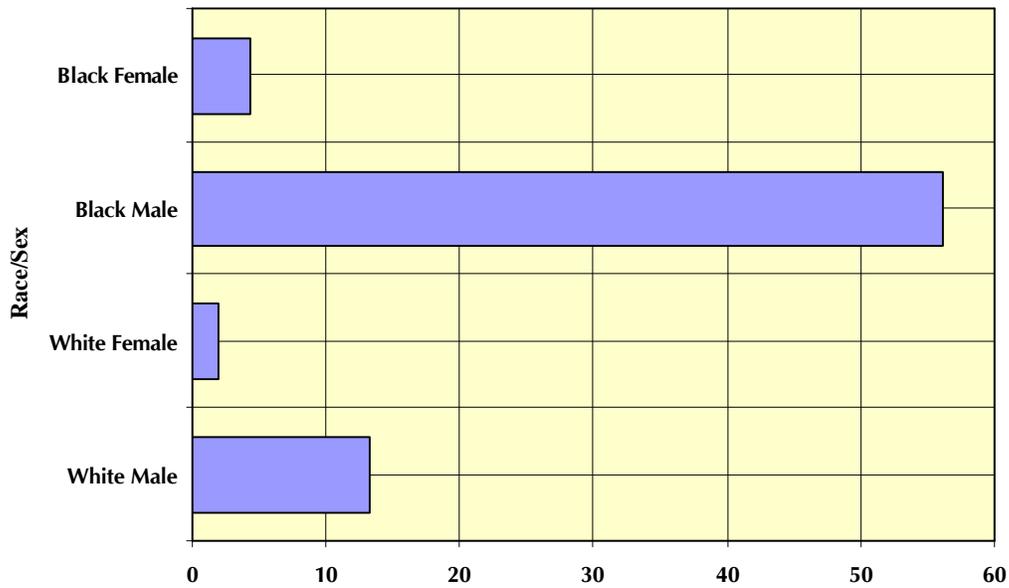
For questions regarding the statistics presented in this article, please contact the Bureau of Health Statistics and Research at 717-783-2548. Additional statistics on firearm-related injury deaths can be accessed on the Health Statistics web pages at [www.health.state.pa.us/stats](http://www.health.state.pa.us/stats).

**Chart 1**  
**Firearm-Related Deaths by Type for Pennsylvania Residents, 2003**



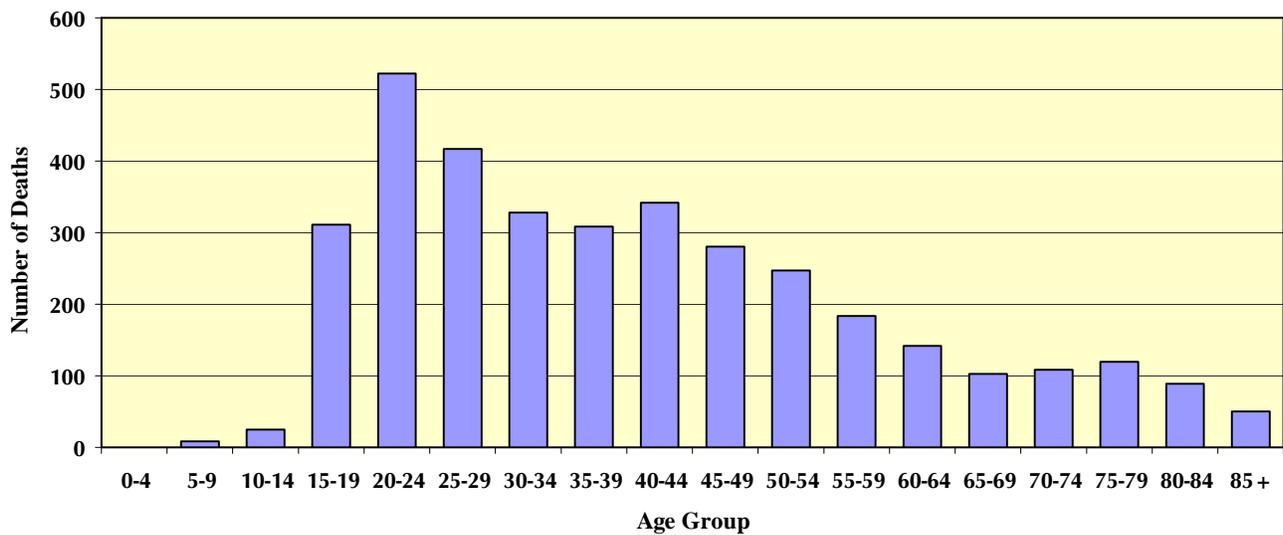
**...the age-adjusted firearm-related death rate... among blacks was... 4 times higher than the rate for whites...**

**Chart 2**  
**Age-Adjusted Death Rates due to Firearm-Related Injuries by Race and Sex**  
**Pennsylvania Residents, 2003**



Note: Age-adjusted rates are per 100,000 and are computed by the direct method using the 2000 U.S. standard million population.

**Chart 3**  
**Number of Firearm-Related Deaths by Age Group**  
**Pennsylvania Residents, 2003**



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Continued from Page 2...

## Why Is It Important to Geocode Health Data?

these former sites be tested for elevated blood lead levels because there is a chance that there may be heightened lead levels in these areas. This initiative supports the Centers for Disease Control and Prevention's goal of eliminating childhood lead poisoning by the year 2010. To read more about this initiative and view the maps, click on the following link, [Lead Elimination Plan](#).

The PADOH also uses geocoded health data to improve the coverage of health services in Pennsylvania. The Bureau of Health Planning designates [Health Professional Shortage](#)

[Areas \(HPSA\) and Medically Underserved Areas/Populations \(MUA/P\)](#), which are areas that have a critical need for additional health care services to support their population. If a medical professional commits to work in one of these areas, they can receive benefits in the form of loan repayments, bonus incentives, or even J-1 visa waivers. The PADOH identifies and maps these HPSAs, MUAs, and MUPs. If someone submits an address for a potential practice site in one of these areas, the site address can be geocoded to determine if it falls within the bound-

aries of a HPSA, MUA, or MUP or if it may be close enough to serve one of these areas. If a practice site qualifies, these underserved areas can then hire much-needed professional health practitioners.

The previous examples are just a couple of recent initiatives that have used geocoded health data or health-related data maps in an attempt to improve the health of Pennsylvania residents. The Bureau of Health Statistics and Research has already begun geocoding birth record data. The Pennsylvania Cancer Registry will soon begin geocoding

present and historical cancer cases. These geocoding efforts will allow new and innovative geospatial analysis to be performed to possibly identify and address health issues in both of these areas.

The Pennsylvania Department of Health is just beginning to utilize the power of geospatial technologies and there is much more that can and will be accomplished.

If you have questions concerning this article, geocoding, or geospatial technologies, please contact the Bureau at 717-783-2548.

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Continued from Page 3...

## Pennsylvania Immunization Registry Update

out of 129 currently using the Registry. Concurrently, the Registry continues to recruit interested private provider practices. Over the last three months, the immunization registry successfully implemented 13 private provider practices.

In an effort to facilitate provider recruitment, the Registry continues to strengthen partnerships with health care organizations, other state agencies, local communities, and health department contractors to collectively

assist each other in achieving respective goals. These goals include Healthy People 2010 objectives related to immunizations (95% of 6 year-olds participating in an immunization registry, 80% of children aged 19-35 months fully immunized with the 4:3:1:3:3 series) and to assist private practices with Early and Periodic Screening Diagnostic and Treatment (EPSDT) service reporting and Health Plan Employer Data and Information Set (HEDIS) reporting.

The Registry is committed to implementing system improvements to enhance the Web application that continues to support the changing business needs of its current and future customers. One enhancement is the activation of the clinic vaccine inventory-tracking module. This enhancement allows the Vaccines for Children (VFC)

Program to centralize ordering and distribution of VFC vaccines through the Registry to participating private practices and public healthcare facilities. Practices participating in both the Registry and the VFC program benefit through electronic reporting of monthly vaccine usage reports and yearly provider profile reports that are generated through the immunization registry and reported to the Department.

A major enhancement currently being worked on is the re-engineering of the vaccine forecasting algorithms used within the Registry to determine the next shot needed based on shots that have already been given. The new algorithms are designed to consider combination vaccines with the manufacturers recommended and minimum spacing intervals between doses. The new algorithms will provide registry

users with the utility to quickly assess a patient's vaccination history and recommend what vaccines should be administered based on the vaccination series a patient is following and what inventory a clinic has available. The re-engineering of this functionality will also strengthen many of the patient and clinic specific reports that can be generated by a practice participating in the Registry.

Examples of reports that practices can generate through immunization registries include: the patient missing immunizations report, upcoming immunizations report, patient routing slip, and patient reminder notice.

Please contact the Bureau at 717-783-2548 for questions about the immunization registry. Staff are also available to provide presentations that show specific operations of the system.

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**The Registry is committed to... system improvements to enhance the Web application... to support... current and future customers.**

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# Update: Healthy People 2010 Objectives

## Focus Area 16: Maternal, Infant, and Child Health

### 16-01c - Reduce infant deaths.

**2010 Target:**  
**4.5 infant deaths per 1,000 live births**

#### All Infant Deaths and by Sex:

Infant death rates for all Pennsylvania residents as displayed in the first graph on the right show that the figure had been on the decline between 1998 and 2000 but increased in 2001 and 2002. There were 1,081 infant deaths among residents in 2002 for a rate of 7.6 per 1,000 live births, compared to 1,038 and 7.2 in 2001. This is the second consecutive year in which the Pennsylvania infant death rate increased since 1989.

The 2002 infant death rates by sex showed an increase for males and females. The 2002 rate for males was over 22 percent higher than the rate for females (8.3 versus 6.8, respectively).

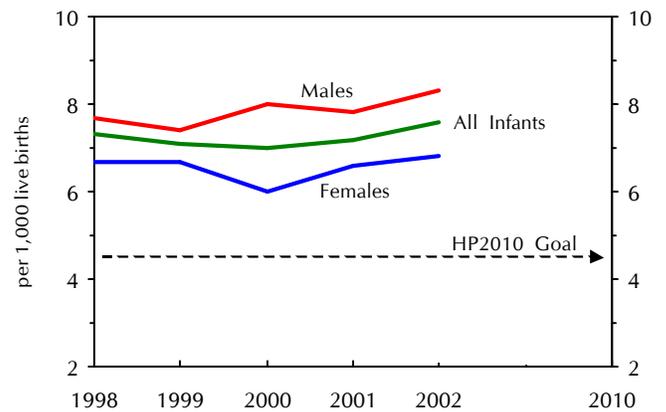
To reach the national 2010 goal of 4.5, Pennsylvania's infant death rate will have to decline by 41 percent; therefore, the increase starting in 2001 should be of particular concern.

#### By Race and Hispanic Origin:

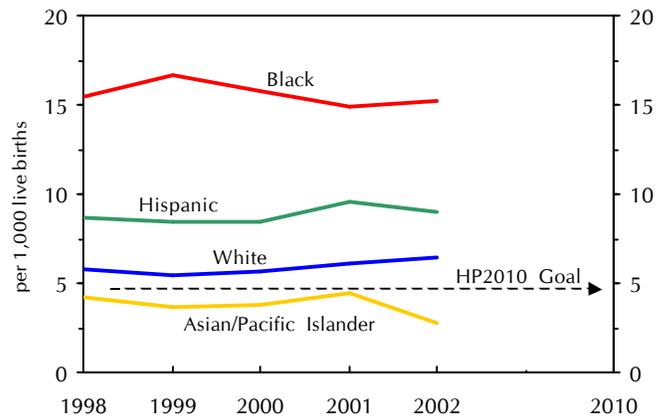
The second graph on the right depicts infant death rates by race and Hispanic Origin for 1998-2002 and large differences can easily be seen. The rates for black residents are three to four times higher than the rates for whites and Asians/Pacific Islanders. The rates for Hispanics, while lower than the rates for blacks, are still somewhat higher than the rates for whites and Asians/Pacific Islanders. However, the 2002 rate for Hispanics and Asian/Pacific Islanders declined while the rates for whites and blacks rose.

The infant death rate for Asians/Pacific Islanders has been consistently lower than the 2010 goal of 4.5 and the rates for whites are also low. However, the third consecutive increase for whites should be of concern. The rates for Hispanics and especially for blacks need to decrease significantly in order to reach the Healthy People 2010 goal.

Infant Death Rates, Total and By Sex  
Pennsylvania Residents, 1998-2002



By Race and Hispanic Origin, Pennsylvania, 1998-2002



Infant Death Rates\*  
By Sex, Race, and Hispanic Origin  
Pennsylvania Residents, 1998-2002

	2002	2001	2000	1999	1998
All Infant Deaths .....	7.6	7.2	7.0	7.1	7.3
Males .....	8.3	7.8	8.0	7.4	7.7
Females .....	6.8	6.6	6.0	6.7	6.7
White .....	6.4	6.1	5.7	5.5	5.8
Black .....	15.2	14.9	15.8	16.7	15.4
Asian/Pacific Islander .....	2.8	4.4	3.8	3.7	4.2
Hispanic** .....	9.0	9.6	8.4	8.4	8.7

\*per 1,000 live births  
\*\*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](http://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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*Statistical News* is published bimonthly by the Bureau of Health Statistics and Research, Pennsylvania Department of Health, 555 Walnut St., 6th Floor, Harrisburg, PA, 17101. Please write, telephone (717-783-2548) or FAX (717-772-3258) us if you have any questions regarding the contents of this newsletter. Visit the Health Statistics section of the Department's web site at [www.health.state.pa.us/stats](http://www.health.state.pa.us/stats) to access additional health statistics and reports.

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**Click on the EpiQMS logo above to access our interactive health statistics web site.**

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