2013 PENNSYLVANIA STATE HEALTH ASSESSMENT PROCESS

The purpose of the State Health Assessment is to assess and report on the health status of Pennsylvania’s population. State Health Assessments describe the health status of the population, identify areas for health improvement, determine factors that contribute to health issues, and identify assets and resources that can be mobilized to address population health improvement.

The Pennsylvania State Health Assessment was a collaborative process of collecting and analyzing data and information to develop priorities and policies, garner resources, and plan actions to improve the population’s health. It was conducted in partnership with other organizations and includes data and information on demographics; socioeconomic characteristics; quality of life; behavioral factors; the environment; morbidity and mortality; and other determinants of health. The State Health Assessment will be the basis for development of the state health improvement plan.

The Public Health Accreditation Board, a national organization that accredits tribal, state, local and territorial public health departments, requires health departments to complete three department-wide processes, current within five years, before applying for national accreditation:

- State Health Assessment;
- state health improvement plan; and
- health department strategic plan.

Before starting the assessment, staff reviewed the department’s mission and developed a vision to guide the assessment process.

**Department Mission:** The Pennsylvania Department of Health strives to promote healthy lifestyles, prevent injury and disease, and assure the safe delivery of quality health care for all commonwealth citizens.

**State Health Assessment Vision:** The Pennsylvania State Health Assessment will enhance the capacity of the commonwealth to achieve optimal health for all of its residents.

The following goals were identified to drive the assessment:

- Engage a broad representation of stakeholders in a collaborative partnership to:
  - describe the health status of the population;
  - identify areas for health improvement;
  - determine factors that contribute to health issues; and
  - identify assets and resources that can be mobilized to address population health improvement.

- Analyze data and information for use in developing priorities and policies, garnering resources, and planning actions to improve the population’s health.

- Make the State Health Assessment available for public use.

- Increase the capacity of the Pennsylvania Department of Health to meet the accreditation standards for state health departments defined by the Public Health Accreditation Board.

**PARTICIPATION STRUCTURE**

**Core Committee**

The Core Committee was made up of Bureau of Health Planning, Division of Plan Development staff who performed the majority of the work necessary to coordinate and carry out the State Health Assessment. In addition, a consultant, Policy Studies, was hired using the Department of General Services’ Invitation to Qualify process. Policy Studies was selected based on their experience in building partnerships and planning; the firm was hired to develop the plans and participate in the process of conducting the assessment.
Responsibilities of the Core Committee included:

- Leading the process and becoming the State Health Assessment process “experts”;
- Establishing and meeting with the Advisory Committee as needed;
- Performing data collection work; and
- Interpreting and reporting on findings.

Advisory Committee

The Advisory Committee consisted of members who broadly represented the statewide public health system, who were interested in health assessment and health planning, and who agreed to function in an advisory capacity throughout the State Health Assessment process.

Responsibilities of the Advisory Committee included:

- Attending a limited number of meetings during the State Health Assessment process;
- Reviewing and offering guidance and recommendations on the State Health Assessment process and materials;
- Encouraging participation of other outside partners;
- Assisting in the review of statistics and other information about the state and offering guidance and recommendations pertaining to this information; and
- Acting as advocates for the State Health Assessment process, including helping to identify resources and support.

The Advisory Committee included:

- Pa. Department of Health:
  - Bureau of Community Health Systems
  - Bureau of Epidemiology, Division of Environmental Health Epidemiology
  - Bureau of Health Statistics and Research
  - Bureau of Information Technology
  - Deputate for Quality Assurance
  - Health Policy Board
  - Office of Health Equity
  - Office of Policy
- Pa. Department of Agriculture, Bureau of Plant Industry, Division of Health and Safety
- Pa. Department of Conservation and Natural Resources, Greenways and Conservation Partnerships Division
- Pa. Department of Drug and Alcohol Programs
- Pa. Department of Education, Bureau of Teaching and Learning, Division of Student Services
- Pa. Department of Public Welfare:
  - Office of Children, Youth and Families
  - Office of Medical Assistance Programs
- Colleges/Universities:
  - Drexel University College of Medicine, Women’s Health Education Program
  - Penn State University, Harrisburg Campus
- Organizations/Associations:
  - The Center for Rural Pennsylvania
  - Dorothy Rider Pool Health Care Trust
  - Hospital and Healthsystem Association of Pennsylvania
  - Pennsylvania Association of Area Agencies on Aging
  - Pennsylvania Association of Community Health Centers
  - Pennsylvania Association of Non-Profits
  - Pennsylvania Community Providers Association
  - Pennsylvania Dental Association
  - Pennsylvania Medical Society
  - Pennsylvania Office of Rural Health
Stakeholders
Department of Health bureaus and programs contributed to the State Health Assessment and included other non-departmental key stakeholders to participate in the development of the assessment.

Responsibilities of stakeholders included:
- Reviewing and providing feedback on the proposed report framework;
- Serving as content experts to prioritize and frame information for report inclusion;
- Participating in the workgroup process;
- Reviewing selected data indicators and identifying additional information to include in the report and
- Reviewing and commenting on report drafts.

EXPERT WORKGROUPS
Scope of Work
There were 10 topic expert workgroups that corresponded to the Pa. SHA Framework topic areas. Within each of the topic areas were subtopics each of these had a section in the SHA report.

The 10 topic areas included:
- Context of health
- General health status
- Major risks and protective factors
- Infectious disease
- Chronic disease
- Injury and violence
- Maternal and child health
- Environmental health
- Healthcare services
- Occupational health

Stakeholders were encouraged to sign up for one or more expert workgroup(s) based on their expertise and/or interest in these topic areas and the related subtopics in the Pa. SHA Framework. Workgroup participants:
- cooperatively determined the schedule needed to complete the sections by June 2013;
- used an online collaborative site and telephone meetings to facilitate communication between expert workgroup participants;
- recommended appropriate edits to the SHA Framework to ensure that subtopics were relevant and were included within the appropriate topic area of the final report;
- identified and compiled additional statistics and information from existing data sources to ensure that report sections included the important content for each topic and subtopic; and
- reviewed and refined draft report sections within their topic area(s).

Expert workgroup participants were encouraged to think beyond their individual roles and organization needs by applying their subject matter expertise to a statewide perspective for the benefit of all Pennsylvanians. Expert workgroups included representatives from the following groups: Core Committee, Advisory Committee, internal and external stakeholders.

Expert workgroup participants were encouraged to invite other key stakeholders from across the state to contribute information to the report or participate in the workgroups.

EXPERT WORKGROUP OPERATIONS
Process Benchmarks
Expert workgroup participants determined meeting frequency and target timelines for section completion based on the following suggested benchmarks:
1. Review SHA framework (before first meeting)
2. Review existing data/sections (before first meeting)
   Some bureaus and offices in the Department of Health provided data and narrative for the SHA. Access to this information was made available to each expert workgroup participant through an on-line collaborative website.
3. **First meeting** (February 2013)  
   This was an organizational meeting in which the processes of reviewing information and timelines, identifying additional participants, and identifying strategies for data sharing were explored.

4. **Identified data gaps/additional data sources** (March 2013)  
   Workgroups continued to identify data and determine who was responsible for each section.

5. **Drafted/redrafted sections** (April 2013)  
   Workgroups met to review content of initially drafted sections.

6. **Section review** (June 2013)  
   Sub-topic drafts were emailed to authors for their review/comments.

7. **Final workgroup edits** (July 2013)  
   Compiled topic sections were reviewed by workgroups.

**Content**  
Each subtopic section was to include the following details in this order when they were available:

1. **Introduction:** Briefly introduce the subtopic, how the topic impacts health, and its relevance to Pennsylvania. Set the stage for the data presentations.

2. **National and State Goals:** Describe national and state goals and progress toward goals (e.g., Healthy People 2020 and 2010 data, relevant CDC or other national level information, state-level performance measures).

3. **Time Trends:** Time-series measures may be used to determine if rates and frequencies are increasing, decreasing or staying the same over time; to document whether state rates are improving or declining; and to identify emerging problems (e.g., prevalence/incidence data, mortality trends). Select time periods based on available data or to emphasize significant trends.

4. **Geographic Variation:** Compare the state to the nation or specific counties to the state or highlight key geographic areas or trends, whichever would be more relevant for a subtopic (e.g., prevalence/incidence rates and mortality/incidence rates for Pa. and by county).

5. **Group-Specific Measures:** Identify disparities by race and ethnicity, county of residence, age, income, education and sex. Discuss the sources of disparities to provide for accurate interpretation of the measures. Include only those group-specific measures that are significant for a subtopic.

6. **Other Measures of Impact and Burden:** Identify objective assessments of health status, burden of disease, injury and disability, their preventability, and related costs (e.g., mortality, morbidity, hospitalization and cost, economic burden, health insurance coverage.).

7. **Risk and Protective Factors:** Factors that increase risk or protect individuals from the disease or condition beyond group-specific measures (e.g., health risk behaviors, preventive health practices and health care access summarized in BRFSS and Healthy People 2010 and 2020 data).

8. **Intervention Strategies:** Most effective programs designed to reduce illness and injury and to optimize health. Note if program is evidence-based.

9. **Reference to Resources:** Include reference to local, state or national resources for additional information.

**Public Feedback**  
Public feedback on the SHA documents was obtained by circulating information with a request for comment.

- The methods are:
  - Posting on the “What’s Hot” location of the DOH website [www.health.state.pa.us](http://www.health.state.pa.us);
  - Distribution by Advisory Committee members;
  - Distribution through Health Improvement partners; and

- **Comment period was September 3-October 11, 2013.**

- **Documents available for comment were:**
  - Overview of the SHA Process (this document), and
  - Key Health Findings At-A-Glance.

- Dedicated email address for feedback [ra-sha@pa.gov](mailto:ra-sha@pa.gov).

- **Public feedback may be used to modify the current state health assessment and/or assist in the development of future state health assessments. All feedback was reviewed, but was not made public.**

**Editing**  
A consultant was hired through the University of Pittsburgh, School of Public Health to do copy-editing of the final product.
Sample estimates compared using confidence intervals

In public health, much of the knowledge that we rely upon is obtained from scientific samples because it is the only feasible way to obtain the information. Results from samples of human populations are always estimates. The estimates vary by the error or bias associated with the sample survey process. Sample bias may occur as the result of a large array of things, such as poorly designed questions, sample coverage, or the recall, honesty and understanding of the respondent. Most biases can’t be quantified, but we endeavor through careful sample design and care in crafting and testing survey questions to minimize these biases. The aim is to keep nonsampling error (biases) small, expecting some of them to cancel out one another. Hopefully the overall effect of the biases, which we can never be sure we have eliminated, will be smaller than the statistical sample error which we can accurately quantify.

All estimates obtained from probabilistic (scientific) samples have some error attributable to the sampling process. This sampling error is accurately quantifiable and is usually represented as the confidence interval (CI) or confidence bounds. Any level of confidence could be determined but the 95% level is almost universally used. So if a sample of Pennsylvania residents indicates that 54% (95% CI 51%-57%) believe that the sky is falling, then we can be confident that, if we conducted 100 different samples using the same sample design at least 95 of them would result in estimates between 51% and 57% of Pennsylvanians believing the sky is falling.

To accurately compare two sample estimates to determine if they are actually different, after accounting for the sample error, a statistical test (significance test) is required. A significance test will yield the probability (P-value) that the two sample estimates being compared are actually no different from one another. In order to calculate the P-value, one must have the actual data collected in the sample. Additionally, nearly all of the samples we encounter use a complex sample design in order to make the sample more efficient or affordable. If the sample has a complex design you will also need knowledge of the design, the weighting and specialized software to account for the sample design when you calculate the variances.

A common level of significance is P<.05, or a chance of less than 1 in 20, of the compared values actually being the same when the statistic says they are different. Although, you should keep in mind that if you are observing a large number of relationships with P-values near .05 then approximately 1 out of 20 of those significantly different estimates will not really be different (false positive). You may want to rely on a higher level of statistical significance, such as P<.01 or 1 in 100. Unless a particular hypothesis is being tested, it is not common to have sample data reported with significance tests calculated. However, analysis of sample data will provide some quantification of the sample error in the sample. This is most often reported as a confidence interval (CI).

Even though you can’t determine the actual level of statistical significance for the difference between two sample estimates by comparing the CIs, they can give you a good idea of how important the difference might be. There are two conditions that can be employed to help evaluate how different two estimates really are.

- If either point estimate is contained within the 95% confidence interval for either of the estimates being compared, the difference IS NOT statistically significant at the <.05 level.
- If the confidence bounds do not overlap, then the difference between the estimates being compared is most likely statistically significant. When the bounds do not overlap, the significance is almost certainly statistically significant at the <.05 level and it is very likely statistically significant at a <.01 level if the bounds for the two estimates are not very close together.

Adjusted vs. Specific Rates

This assessment has included both age-adjusted and specific rates in the population. An adjusted rate is not a good indicator of the absolute level of mortality in a population, but is useful for purposes of comparison. However, some
people contend that adjusted rates can easily lead to misinterpretation. They believe that age, sex and/or race specific rates are more useful descriptions of vital events and do not easily lend themselves to misinterpretation.

The following are some pros and cons about these two different types of rates:

An adjusted rate is an artificially created figure that enables comparison across time and space. It should only be compared with another adjusted rate that was computed using the same "standard" population. However, it does provide a single figure which can be easily used and adapted for comparative analysis. There is still the possibility of misuse of this type of rate by people unfamiliar with its meaning. For instance, multiplying an adjusted mortality rate by the actual population being studied will not produce a figure representing the actual number of deaths. As an example, we computed County I’s 1982 age-adjusted death rate as 907.9 per 100,000 population. County I’s population in 1982 was 68,292. If you multiply 68,292 by .009079, you will get a figure of 620 rather than the actual number of 556 resident deaths in 1982 in County I. For this reason alone, adjusted rates should always be thoroughly qualified when being used.

A specific rate is a real number. It provides an absolute measurement as well as a useful statistical tool for comparison and trend analysis. For example, Pennsylvania’s crude birth rate expressed as the number of resident live births per 1,000 total population has shown a gradual increase from 12.9 in 1978 to 13.6 in 1982. However, if you compute age-specific birth rates for each of those years (i.e., the number of live births per 1,000 total women for each five year age group 10-44), you will discover a significant decrease in the age-specific birth rates among women under 25 with corresponding significant increases for women 25 and over. This indicates a trend that actually reverses a past pattern. Unfortunately, use of specific rates in analysis can result in massive amounts of data with which to work and/or display. Large amounts of data can become difficult for user and audiences to digest.


Below are descriptions of selected sources that have been used frequently throughout the Statewide Health Assessment. These do not reflect all sources used in the assessment.

**Sources from the Centers for Disease Control and Prevention (CDC):**

**National Program of Cancer Registries (NPCR)** - Data collected by local cancer registries enable public health professionals to understand and address the cancer burden more effectively. Medical facilities such as hospitals, doctor’s offices and pathology laboratories send information about cancer cases to their cancer registry. Most information comes from hospitals, where highly trained cancer registrars transfer the information from the patient’s medical record to the registry’s computer software using standardized codes. The data are then sent to the central cancer registry. Once a year, most state central cancer registries send information to CDC’s NPCR, and some state and city cancer registries send information to the National Cancer Institute’s Surveillance, Epidemiology and End Results (SEER) program. The NPCR and SEER review the information again, and then publish the information annually in the United States Cancer Statistics: Incidence and Mortality Web-based Report (USCS).

**Foodborne Diseases Active Surveillance Network (FoodNet)** - FoodNet is a collaborative program between CDC, 10 state health departments, the U.S. Department of Agriculture’s Food Safety and Inspection Service (USDA-FSIS), and the Food and Drug Administration (FDA). FoodNet personnel located at state health departments regularly contact the clinical laboratories in Connecticut, Georgia, Maryland, Minnesota, New Mexico, Oregon, Tennessee, and selected counties in California, Colorado, and New York to get reports of infections diagnosed in residents of these areas. The surveillance area includes 15 percent of the United States population.

**National Notifiable Disease Surveillance System (NNDSS)** – NNDSS is a multifaceted public health disease surveillance system that gives public health officials capabilities to monitor the occurrence and spread of diseases. It encompasses everything that supports the activity of collecting and monitoring disease data, including policies, laws, people, partners, information systems, processes, and resources at the local, state, and national levels. National Electronic Disease Surveillance System (NEDSS) is a key component of NNDSS. NEDSS supports reportable disease surveillance by improving information sharing between healthcare providers and health departments and between states and CDC, as well as between state health departments to improve multi-state disease detection and containment.

**Youth Risk Behavior Survey (YRBS)** - The national YRBS conducted by the CDC provides data on health-risk behaviors among 9th-12th grade students in the United States, including behaviors that contribute to injuries and violence; alcohol or other drug use; tobacco use; sexual risk behaviors; unhealthy dietary behaviors; and physical inactivity. YRBS also measures the prevalence of obesity and asthma among youth and young adults. CDC provides support for states to conduct the YRBS, and Pennsylvania successfully conducted a Youth Risk Behavior Survey (YRBS) in the 2009/1010 school year.
Other National Sources:

Medicaid Statistical Information System (MSIS) - States submit eligibility and claims program data to the Centers for Medicare & Medicaid Services (CMS) through the Medicaid Statistical Information System (MSIS). The state-submitted data include over 65 million eligibility records and over 3 billion claims records per year. The data is state reported. This system allows users to develop high-level statistical tables covering a range of Medicaid program statistics. It provides support to states and others who have a need to obtain state-specific and/or national data quickly and efficiently. The system is licensed for use by registered users only.

United States Census Bureau – American Community Survey (ACS) - The ACS is a nationwide survey designed to provide communities with a fresh look at how they are changing. It collects information such as age, race, income, commute time to work, home value, veteran status and other important data. The ACS collects and produces population and housing information every year instead of every ten years, which provides more up-to-date information throughout the decade about the U.S. population at the local community level. About 3.5 million housing unit addresses are selected annually, across every county in the nation. The surveys are as follows: 1-year estimates annually for geographic areas with a population of 65,000 or more; 3-year estimates annually for geographic areas of 20,000 or more; and in 2010, the Census Bureau released the first 5-year estimates for small areas. These 5-year estimates are based on ACS data collected from 2005-2009.

United States Health & Human Services, Healthy People 2020, 2020 Topics & Objectives - Healthy People 2020 Topics & Objectives provides science-based, ten year national objectives for improving the health of all Americans. A few of the missions of HP 2020 are to identify nationwide health improvement priorities; increase public awareness and understanding of the determinants of health, disease, and disability and the opportunities for progress; and to provide measurable objectives and goals that are applicable at the national, State, and local levels.

Pennsylvania Department of Health (PA DOH) Sources:

Epidemiologic Query and Mapping System (EpiQMS) – The PA DOH, Bureau of Health Statistics and Research manages and maintains EpiQMS. It is an interactive health statistics web tool for creating customized data tables, charts, maps and county assessments/profiles for the following topics: Behavioral Risk Factor Surveillance System (BRFSS); births, cancer incidence; communicable diseases (other than STDs); deaths; emergency medical services; infant deaths; population; sexually transmitted diseases (STDs), and reported teen pregnancies. Information can be obtained from this site in different formats (tables, charts, maps and profiles), over time (in single and multiple-year output) for the purpose of trend analysis, public health assessment and/or surveillance support.

Pennsylvania Behavioral Risk Factor Surveillance System (PA BRFSS) – PA BRFSS is an annual telephone survey implemented under a grant from the CDC. The BRFSS survey consists of telephone interviews using randomly generated telephone numbers to determine the households contacted. The survey contains a core set of questions provided by CDC to gather comprehensive, standard information nationwide and state-added questions. The questions asked concern health status, access to health care, health awareness, use of preventive services and knowledge and attitude assessment. The BRFSS survey results, published annually, provide valuable tools in measuring health trends, assessing chronic disease risk and monitoring the effectiveness of policies, programs and awareness campaigns. The information obtained from the data is used to guide health policy decisions, monitor progress toward achieving national year 2020 health objectives, propose and support legislation, develop public awareness strategies, and identify critical areas for future attention. The BRFSS system collects data in all 50 states, as well as the District of Columbia and three U.S. territories. Nationally, BRFSS completes more than 400,000 adult interviews each year, making it the largest continuously conducted health survey system in the world.

Pennsylvania Cancer Registry (PCR) – Cancer incidence data is collected by the Pennsylvania Cancer Registry (PCR), located at the PA DOH. The PCR is a full participant in the National Program of Cancer Registries (NPCR) of the CDC. The PCR collects statewide cancer incidence data and has agreements with the states of Delaware, Florida, Maryland, Michigan, New Jersey, New York, Ohio and West Virginia for exchange of data on cases that are residents of other states. The PCR collects cancer records from hospitals, pathology laboratories,
radiation treatment centers, medical oncology centers, physician offices, nursing homes/hospices, autopsy reports, death certificates and other hospital outpatient units/surgery centers across the commonwealth. Reporting sources are required to submit all cancer cases newly diagnosed and/or treated at their facility. If an individual had more than one primary tumor, each tumor is reported and counted. Cancer cases are coded according to the International Classification of Diseases for Oncology, Third Edition (ICD-O-3).

Pennsylvania Certificates of Live Birth - Birth certificate information is collected for both in-hospital and out-of-hospital Pennsylvania resident births. Each birth certificate is submitted to the PA DOH. Births must be reported within 10 days of the event. The most recent year available for PA birth certificate data is 2011. The Vital Events Registry is a statewide data system responsible for collecting information on all births that occur in Pennsylvania. This registry is part of the Vital Statistics Cooperative Program (VSCP) administered by the National Center for Health Statistics (NCHS). Through this program, the CDC provides funding for states, such as Pennsylvania, to ensure the birth data is as complete, timely and accurate as possible.

Pennsylvania Death Certificates - All deaths occurring in Pennsylvania must be reported to the Department of Health within 96 hours of the event. Completing and filing the death certificate is the responsibility of the funeral director, physician/coroner, or staff of a hospital or nursing home working with the coroner or funeral director. The PADOH also collects death data through data exchanges with other states when Pennsylvania residents die in other states. The dataset contains the latest available and historical state, county and municipality data by age, race/ethnicity and various death-related topics. The most recent year available for PA death certificate data is 2010.

PA DOH, Healthy People 2020, State Data Set & Data Sources – The PA DOH Healthy People 2020, State Data Set & Data Sources is a set of goals and objectives with ten year targets designed to guide national health promotion and disease prevention efforts in order to improve the health of all Americans. PA DOH provides statistics to assist in the monitoring of progress of these objectives at the state and county level. This data comes from various data sources, such as the PA Behavioral Risk Factor Surveillance System survey, United States Renal Data System (USRDS), PA Department of Environmental Protection, PA Health Care Cost Containment Council, several programs within the PA DOH, as well as other sources.

Pennsylvania National Electronic Disease Surveillance System (PA NEDSS) - PA NEDSS is an online, near real-time, secure communication link between laboratories, hospitals, individual medical practices and the PA DOH. Public health investigators who investigate diseases and outbreaks are also users of PA NEDSS. The use of PA NEDSS improves timeliness and accuracy of disease reporting, and also provides a consolidated means for analyzing public health data. Since November 16, 2003, PA-NEDSS has been the mandatory electronic disease reporting application for Pennsylvania.

Pennsylvania Pregnancy Risk Assessment Monitoring System (PA PRAMS) – PA PRAMS is a joint research project between the PA DOH and the CDC. CPONDER is the CDC’s web-based query system that serves as an interface with PRAMS data collected nationwide. Pennsylvania entered into a cooperative agreement with the CDC in April, 2006 and began conducting surveys in 2007. The PA DOH manages a mail and telephone survey process to capture information across a wide range of maternal and infant health issues. The population of interest for PA PRAMS is all mothers who are residents of Pennsylvania who delivered within Pennsylvania alive-born infant during the surveillance period. Names are chosen by chance from the state birth certificate registry. PA PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during and shortly after pregnancy. The goal of PRAMS is to use the information it collects to improve the health of mothers and infants by reducing adverse outcomes such as low birth weight, infant mortality and morbidity, and maternal morbidity.
Other Pennsylvania Sources:

**Pennsylvania Department of Public Welfare (PA DPW), Office of Medical Assistance Programs HealthChoices Admissions Data** - The HealthChoices Program is the name of one of Pennsylvania’s mandatory managed care programs for Medical Assistance recipients. Through Physical Health Managed Care Organizations, recipients receive medical care and access to physical health services, whether the services are delivered on an inpatient or outpatient basis. Through Behavioral Health Managed Care Organizations, recipients receive mental health and/or drug and alcohol services.

**Pennsylvania Health Care Cost Containment Council (PHC4)** - The PHC4 is an independent state agency responsible for addressing the problem of escalating health costs, ensuring the quality of health care and increasing access to health care for all citizens regardless of the ability to pay. PHC4’s Information Services team processes approximately 1.8 million inpatient and 3.1 million ambulatory/outpatient records per year. The data is processed using a sophisticated series of validation rules before it is finalized and made available for further analysis and public release. PHC4 collects inpatient discharge records from Pennsylvania hospitals and ambulatory/outpatient records from Pennsylvania hospitals and freestanding surgery centers. These data are collected on a quarterly basis.

Disclaimers:

**Pennsylvania Health Care Cost Containment Council (PHC4)** – PHC4, its agents and staff have made no representation, guarantee, or warranty, express or implied, that the data: financial, patient, payor and physician specific information provided to this entity, are error-free, or that the use of the data will avoid difference of opinion or interpretation, or disputes with those who published reports or purchased data. The analysis was done by the PA DOH. PHC4, its agents and staff, bear no responsibility or liability for the results of the analysis, which are solely the opinion of this entity, or consequences of its use.

**Pennsylvania Department of Health, Bureau of Health Statistics and Research** – These data were provided by the Bureau of Health Statistics and Research, Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations or conclusions.