May 2007

Dear Pennsylvanians:

It is my pleasure to share with you Pennsylvania’s first-ever Diabetes Action Plan.

The Pennsylvania Diabetes Action Plan 2007 is intended to be used as a blueprint by all who share the vision of coordinating efforts to improve diabetes prevention and control in the Commonwealth of Pennsylvania. The goals and recommended actions in the Plan complement the Department’s overall mission to promote healthy lifestyles, prevent injury and disease, and assure the safe delivery of quality healthcare services for all Commonwealth citizens. Through cooperation and collaboration across the broad spectrum of community organizations and individuals, we can positively impact the lives of many people throughout the state.

I would like to thank those who served on the Diabetes Stakeholder Group and have contributed their time and talents to identify the components and goals identified in the Plan. Their expertise and dedication are appreciated.

I encourage all Pennsylvanians to share the vision and enthusiasm and to work to implement the Diabetes Action Plan. Together, we can make a difference.

Sincerely,

Calvin B. Johnson, M.D., M.P.H.

The Pennsylvania Diabetes Action Plan
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The Pennsylvania Diabetes Action Plan represents the combined effort of more than 200 stakeholders, including federal, state, and local governmental agencies, voluntary health organizations, academic institutions, health systems, professional associations, foundations, consumers, corporations, and communities with an interest in diabetes prevention and control. They have worked as partners through the Diabetes Stakeholder Group to create a common vision, the Diabetes Action Plan, which can be a catalyst for change. The Plan provides the blueprint for how efforts, resources and interests can be combined to strengthen the collective capacity in Pennsylvania to ultimately prevent diabetes whenever possible and to assist individuals with diabetes to live their best and healthiest lives.

To determine where the combined efforts of the stakeholders should be focused, the Department of Health’s Diabetes Prevention and Control Program (DPCP), in collaboration with the Diabetes Stakeholders Group, conducted a statewide diabetes public health system assessment and found four major areas in need of strengthening. Those four areas became the four components of the Plan in which efforts and activities will be focused:

- **Surveillance**—to establish a solid base of knowledge about the populations at risk and to collect and to monitor data for diabetes trends in order to focus the use of diabetes resources and efforts.
- **Standards of Care**—to identify and disseminate diabetes standards of care and increase awareness of the importance of early diagnosis, good management, and effective prevention strategies to ensure that all people with diabetes receive the same level of excellent care.
- **Health Policy**—to work toward change and utilize Pennsylvania laws, regulations, standards, enforcement, authority, and funding in ways that improve diabetes care and decrease health disparities.
- **Evaluation**—to investigate and measure the impact of diabetes prevention and control activities and services to enable decision makers to identify effective programs.

With the intention to make sweeping changes in the way people think about and act in response to diabetes, the stakeholders identified six overarching themes that are embedded throughout the Plan and are fundamental to a public health approach to diabetes:

- **Focus on prevention**: take every opportunity to make the public and policy makers aware of the power of lifestyle changes to prevent diabetes—and to prevent complications in people who already have diabetes.
- **Eliminate health disparities**: improve access to and availability of education and medical care to meet the needs of those disproportionately burdened by diabetes due to differences in gender, race or ethnicity, education or income, disability, geographic location or sexual orientation.
- **Ensure access to medical care**: ensure all Pennsylvanians have access to quality diabetes care and treatment.
- **Use evidence-based research and best practices**: use research to design prevention and treatment programs that incorporate best practices and lead to more positive outcomes and sharing success stories.
- **Employ technology**: use the internet and other technology to dispense and gather information; survey populations; share
success stories; and provide guidance to patients, providers, and payers

- **Coordinate efforts and create partnerships:** share resources and responsibility to reduce the burden of diabetes on the people of Pennsylvania and establish metrics for tracking costs, performance measures, processes, and outcomes.

The Pennsylvania Diabetes Action Partnership (PDAP), a newly formed structure that is replacing the Diabetes Stakeholder Group, is a diverse, multi-disciplinary partnership of agencies, organizations and individuals representative of the burden of diabetes in Pennsylvania, demographically and geographically*. The Plan contains a comprehensive list of goals and recommended action steps that are intended to guide the activities of the interacting entities. In the months that follow the release of the Plan, the PDAP will meet to prioritize Goals. Once the Goals are prioritized, the PDAP will continue refining the Action Steps within each goal, completing the final details needed to move into the implementation phase. The PDAP will work in collaboration with and provide recommendations to the DPCP concerning the continued development and implementation of the Plan and will facilitate statewide networking and resource sharing opportunities.

*A visual representation of the composition of the PDAP appears in Figure 1-6.
Diabetes is a lifelong disease that occurs when a person’s pancreas does not produce or stops producing insulin or is not producing enough insulin and/or the body cannot use it. Insulin is needed to use the energy from food. The body makes glucose from food that is eaten. The glucose goes into the bloodstream and circulates around the body. Insulin helps glucose enter the cells where it is used for energy, growth and repair. When people have diabetes, glucose cannot get into the cells. It builds up in the bloodstream until it reaches high levels, which are damaging to the body.

High blood glucose levels can be returned to normal with such treatments as meal planning, medication, and regular physical activity. However, managing blood glucose levels requires daily, and sometimes hourly, attention to the many things that can affect blood glucose, such as food, exercise, stress, illness, and hormone levels.

There is no way to achieve perfect diabetes control, but awareness of the factors that influence glucose levels gives patients the ability to make adjustments and move on. Research has shown that daily efforts to maintain nearly normal blood glucose pay great dividends in preventing long-term complications.1

Although the causes of diabetes are not certain, genetics (family history) and lifestyle factors, such as obesity and lack of physical activity, are related to its development.2 Diabetes is a chronic disease, but people with diabetes can live long and healthy lives. The overarching goal of this Plan is to make this a reality for all people with diabetes.

There are several types of diabetes:

- **Type 1** is usually diagnosed in children and young adults and results from the body’s failure to produce insulin. This type accounts for five to ten percent of all diagnosed cases of diabetes.1
- **Type 2** is the most common form of diabetes and can be diagnosed at any age. It is most commonly seen in adults. This type results when the body does not produce enough insulin or the body cannot use the insulin it produces. Type 2 diabetes accounts for about 90 to 95 percent of all diagnosed cases of diabetes, or more than 18 million people in the United States.1
- **Gestational diabetes** appears during pregnancy in some women. This form of diabetes usually disappears after the baby is born. However, women who have had gestational diabetes have a higher risk (20 to 50 percent) of developing diabetes in the next five to ten years.1
- **Pre-diabetes** is a condition that often precedes the development of type 2 diabetes. In pre-diabetes, a person’s blood glucose levels are higher than normal but not high enough to be considered diabetic. Pre-diabetes does not always lead to the development of diabetes, because controlling weight and increasing physical activity can prevent or delay the onset of diabetes. There are 41 million Americans who have pre-diabetes.1
WHAT ARE THE RISK FACTORS?

According to the National Diabetes Clearinghouse, people are at risk for diabetes if they have any of the following:3

- Overweight (BMI of 25 or more)
- A waist measurement over 35 inches for women and 40 inches for men
- Over 45 years of age (people over 65 have even higher risks)
- Inactive lifestyle (little or no exercise each day)
- Had a baby weighing more than 9 pounds at birth
- Had gestational diabetes during pregnancy
- Brother, sister, or parent with diabetes
- High blood pressure (140/90 mg/dl or higher)
- High cholesterol (HDL [good] cholesterol is 35 or lower; triglyceride level is 250 or higher)
- Member of a high-risk ethnic group (African American, Hispanic/Latino, American Indian, Asian American, Pacific Islander)

DISEASE BURDEN

The Pennsylvania Department of Health (Department) conducts an annual telephone survey (random sample) of adults regarding various health risk behaviors. The Behavioral Risk Factor Surveillance System (BRFSS) is implemented through a grant from the Centers for Disease Control and Prevention (CDC) in all states, U.S. territories, and the District of Columbia. The BRFSS includes a Diabetes Module, which is the main source of information about the estimated prevalence, care, and control of diabetes in Pennsylvania.4 This data assists the Department in tracking the progression of diabetes, planning for interventions, and targeting high-risk populations.

In 2005, the most recent year data is available, an estimated 764,000 adults (18+) or eight percent of adults in the Commonwealth reported that they had ever been told that they had diabetes.4 Pennsylvania’s burden was higher than the 2005 national average of seven percent,1 and ranked sixteenth in the nation for the percent of adults who had ever been told by a doctor that they had diabetes.5

For a more comprehensive look at the burden of diabetes in Pennsylvania, please refer to The Burden of Diabetes in Pennsylvania 2007 report available on the Pennsylvania Department of Health Diabetes Prevention and Control Program’s website at www.health.state.pa.us/diabetes or check out the Pennsylvania Department of Health’s EpiQMS system online at www.health.state.pa.us/statistics. The following table and graphs display the burden of diabetes in Pennsylvania. Although the prevalence of diabetes is found in all racial, ethnic, socio economic...
groups and in both genders in Pennsylvania, some groups are disproportionately burdened by diabetes. In this report, “health disparities” refers to differences in health status, the delivery of health services, or the use of health services that occur by gender, race and ethnicity, education and income, disability, and geographic location.6

Table 1. Estimated Diabetes Prevalence by Demographic, Pennsylvania Adults, 2003-2005

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Percent</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>7.8</td>
<td>7.3-8.3</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8.1</td>
<td>7.4-8.9</td>
</tr>
<tr>
<td>Female</td>
<td>7.5</td>
<td>7.0-8.1</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-44</td>
<td>2.1</td>
<td>1.7-2.5</td>
</tr>
<tr>
<td>45-64</td>
<td>10.1</td>
<td>9.1-11.1</td>
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<tr>
<td>65+</td>
<td>17.8</td>
<td>16.5-19.1</td>
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<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;High School</td>
<td>13.6</td>
<td>11.8-15.7</td>
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<tr>
<td>High School</td>
<td>9.3</td>
<td>8.5-10.2</td>
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<td>Some College</td>
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<td>6.2-8.0</td>
</tr>
<tr>
<td>College Degree</td>
<td>4.6</td>
<td>4.0-5.4</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;$15,000</td>
<td>14.8</td>
<td>12.7-17.2</td>
</tr>
<tr>
<td>$14,000 to $24,999</td>
<td>11.6</td>
<td>10.4-13.0</td>
</tr>
<tr>
<td>$25,000 to $49,999</td>
<td>7.7</td>
<td>6.8-8.6</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
<td>5.1</td>
<td>4.2-6.2</td>
</tr>
<tr>
<td>$75,000+</td>
<td>3.6</td>
<td>2.9-4.5</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>7.6</td>
<td>7.1-8.1</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>10.6</td>
<td>8.5-13.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8.9</td>
<td>5.7-13.7</td>
</tr>
</tbody>
</table>

Source: Pennsylvania BRFSS4
For the 2003-2005 period, the rate of diabetes increases dramatically with age and becomes significantly higher for older adult groups (45+) compared to their younger counterparts. Those in the 65+ age range were disparately affected and had the highest diabetes prevalence of all the age groups.

**Figure 1-1. Estimated Diabetes Prevalence by Age, Pennsylvania Adults, 2003-2005**

Source: Pennsylvania BRFSS. Note: symbol marks lower and upper 95% confidence interval (CI)

There are no significant gender differences in diabetes prevalence rates.

**Figure 1-2. Estimated Diabetes Prevalence by Gender, Pennsylvania Adults, 2003-2005**

Source: Pennsylvania BRFSS. Note: symbol marks lower and upper 95% confidence interval (CI)
In 2003-2005, Black, non-Hispanic Pennsylvania adults had significantly higher diabetes prevalence compared to White, non-Hispanic Pennsylvania adults. No other significant racial/ethnic disparities exist in diabetes prevalence for the 2003-2005 period.

In 2001-2003, Black, non-Hispanic Pennsylvania adults had significantly higher diabetes prevalence (12.2, CI 9.9-14.8) compared to White, non-Hispanic (7.0, CI 6.6-7.5) and Hispanic (5.1, CI 3.0-8.5) Pennsylvania adults.

Note: In general, Pennsylvania BRFSS sample sizes are too small to provide reliable data for some racial/ethnic groups in the state (e.g., Asians, Native Americans, and Pacific Islanders). However, sample sizes are usually large enough to provide reliable data for the three largest racial/ethnic groups in Pennsylvania: non-Hispanic Whites, non-Hispanic African Americans, and Hispanics.
SOCIOECONOMIC STATUS (Education & Income)

Education
- Estimated diabetes prevalence decreases with increases in education level. In 2003-2005, each education level had a significantly lower diabetes prevalence compared to each lesser education level.

Income
- In 2003-2005, Pennsylvania adults with annual income levels <$25,000 had significantly higher diabetes prevalence compared to all other income groups. The diabetes prevalence for the $25,000-$49,999 income range was significantly higher than the $50,000+ income group.

- The trend of decreasing diabetes prevalence with increasing income has remained fairly consistent over time. In 2001-2003 and 2002-2004, Pennsylvania adults with annual income levels <$15,000 had significantly higher diabetes prevalence compared to all other income groups. In addition, during these two time periods, diabetes prevalence for the $15,000-$24,999 income range was significantly higher than all income groups $25,000+. Also, in 2001-2003, the diabetes prevalence for $25,000-$49,999 and $50,000-$74,999 income ranges were significantly higher than the $75,000+ income group. In 2002-2004, estimated diabetes prevalence for the $15,000-$24,999 in the $25,000-$49,999 income ranges were significantly higher than the $50,000+ income group.

Source: Pennsylvania BRFSS. Note: symbol marks lower and upper 95% confidence interval (CI)

<table>
<thead>
<tr>
<th>Income</th>
<th>Percent</th>
<th>CI</th>
<th>Percent</th>
<th>CI</th>
<th>Percent</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$15,000</td>
<td>16.0</td>
<td>13.7-18.5</td>
<td>14.9</td>
<td>13.0-17.0</td>
<td>14.8</td>
<td>12.7-17.2</td>
</tr>
<tr>
<td>$15,000 to $24,999</td>
<td>9.8</td>
<td>8.6-11.2</td>
<td>11.3</td>
<td>10.1-12.6</td>
<td>11.6</td>
<td>10.4-13.0</td>
</tr>
<tr>
<td>$25,000 to $49,999</td>
<td>6.1</td>
<td>5.4-7.0</td>
<td>7.2</td>
<td>6.5-8.1</td>
<td>7.7</td>
<td>6.8-8.6</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
<td>5.6</td>
<td>4.6-6.9</td>
<td>4.9</td>
<td>4.1-5.9</td>
<td>5.1</td>
<td>4.2-6.2</td>
</tr>
<tr>
<td>$75,000+</td>
<td>2.9</td>
<td>2.1-3.8</td>
<td>3.5</td>
<td>2.9-4.4</td>
<td>3.6</td>
<td>2.9-4.5</td>
</tr>
</tbody>
</table>

Figure 1-5. Estimated Diabetes Prevalence by Income, Pennsylvania Adults, 2003-2005

Source: Pennsylvania BRFSS. Note: symbol marks lower and upper 95% confidence interval (CI)

The Pennsylvania Diabetes Action Plan
Adding to the burden of diabetes are the complications often experienced by individuals as a result of the disease. The complications of diabetes can be disabling and life threatening. Diabetes is a primary cause of blindness, heart disease and stroke, and lower-extremity amputations. Many people who have Type 2 diabetes do not realize they have the disease until they see a health care professional for one of its complications. Earlier diagnosis and proper treatment could have prevented or postponed the development of complications. In Pennsylvania, the Pennsylvania Health Care Cost Containment Council (PHC4) is the independent agency responsible for addressing the problem of escalating health care costs and ensuring the quality of health care and increasing access for all citizens, regardless of ability to pay. Of primary interest to the diabetes community is the production of the Diabetes Hospitalization Report by PHC4. Excerpts from the report are presented below. The full report can be found at www.phc4.org.

- The number of hospitalizations where diabetes was the principal diagnosis rose by almost 8.6 percent between 2000 and 2004—growing from 21,842 to 23,725 hospitalizations.
- In 2004 alone, the hospitalizations where diabetes was the principal diagnosis accounted for over 131,800 hospital days and incurred over $673 million in hospital charges.
- While the number and rate of hospitalizations for type 1 diabetes have decreased from 2000 to 2004, the number and rate of hospitalizations for type 2 diabetes have increased steadily during this period.
- Between 2000 and 2004, hospitalization rates for diabetes increased with age. The most pronounced increase was in the 20 to 39 age group where admission rates jumped 26.0 percent.
- African Americans continued to have the highest rates of hospitalization for diabetes, as well as the highest rates of lower extremity amputations and hospitalizations for end-stage renal disease.
- Medicare was the primary payor for 49 percent of the hospitalizations for diabetes as a principal diagnosis. Private insurers had the next highest percentage at 25.3 percent.
- Multiple hospitalizations for diabetes are common and costly. Some 15.4 percent of patients with diabetes were hospitalized two or more times in 2004. Certain populations, including Medicaid and Medicare recipients were more likely to have recurrent hospitalizations.

The data makes clear the serious challenges that diabetes poses for the Pennsylvania health care systems—not to mention the damage done to individuals and their quality of life.
ABOUT THE
Action Plan

THE PURPOSE OF
THE PLAN

The Pennsylvania Diabetes Action Plan provides a blueprint for focusing statewide efforts in a collaborative way. As a result of the efforts, Pennsylvania’s ability to address the prevention of diabetes and diabetes related issues will be strengthened. The ultimate success of the Plan will be the prevention of diabetes and the reduction of its impact.

THE FRAMEWORK
OF THE PLAN

The framework in the Diabetes Action Plan, like other Pennsylvania Department of Health chronic disease plans (Cardiovascular Health, Obesity, Arthritis, and Osteoporosis), is grounded in the perspective of Pennsylvania’s State Health Improvement Plan-SHIP 2006-2010. A model for health planning in Pennsylvania, SHIP 2006-2010, raises a broad awareness of public health issues and stimulates increased involvement of all sectors in the community – health care providers, businesses, community-based organizations, educational institutions, faith-based organizations, all levels of government, and families. It is a step toward a common agenda for health. The State Health Improvement Plan’s goals are:

- To empower communities to identify, plan for and address local health needs;
- To link community-based health plans with the allocation of Commonwealth resources to the degree possible;
- To establish partnerships among local government, state, and local partners that are committed to sharing the risk, responsibility, and resources needed to coordinate health improvement along the spectrum of prevention, acute care, and long-term care; and
- To shift the mode of community health planning from a prescriptive model to a shared responsibility model.

Healthy People 2010 Health Status Objectives for the Nation guides public health initiatives. The objectives have 28 focus areas containing 15 diabetes-related indicators. The Pennsylvania Department of Health monitors seven of those indicators and uses the data to guide decision making. The Diabetes Action Plan seeks to meet Healthy People 2010 Goals for diabetes and other chronic diseases.

Another influence is the CDC’s Division of Diabetes Translation (DDT). This is the federal agency responsible for guiding diabetes prevention-and-control activities and for achieving the diabetes related Healthy People 2010 objectives. The Division supports public health diabetes prevention-and-control programs and translates diabetes research findings into widespread clinical and public health practice. The Action Plan has the support from the DDT through the efforts of the state level Diabetes Prevention and Control Program to create change throughout the systems that interact with those individuals who have diabetes.
As displayed in Table 3, Pennsylvania’s progress toward reaching seven of the national Healthy People 2010 diabetes indicators has been positive in some areas and has room for growth in other areas. Additionally, Healthy People 2010 Diabetes Crosscutting Indicators and Pennsylvania Profiles (indicators related to diabetes risk factors and complications) are listed in Appendix E of this document.

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>NATIONAL HP 2010 GOAL</th>
<th>PA PROFILE (2005 unless noted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Objective 05-01</td>
<td>Increase the proportion of persons with diabetes who receive formal diabetes education.</td>
<td>60%</td>
</tr>
<tr>
<td>2. Objective 05-03</td>
<td>Reduce the overall rate of diabetes that is clinically diagnosed.</td>
<td>25 cases per 1,000 population</td>
</tr>
<tr>
<td>3. Objective 05-05</td>
<td>Reduce the diabetes death rate.</td>
<td>45 deaths per 100,000 population</td>
</tr>
<tr>
<td>4. Objective 05-12</td>
<td>Increase the proportion of adults with diabetes who have an A1C measurement at least once a year.</td>
<td>50%</td>
</tr>
<tr>
<td>5. Objective 05-13</td>
<td>Increase the proportion of adults with diabetes who have annual dilated eye examination.</td>
<td>75%</td>
</tr>
<tr>
<td>6. Objective 05-14</td>
<td>Increase the proportion of adults with diabetes who have at least an annual foot examination.</td>
<td>75%</td>
</tr>
<tr>
<td>7. Objective 05-17</td>
<td>Increase the proportion of adults with diabetes who perform blood glucose monitoring</td>
<td>60%</td>
</tr>
</tbody>
</table>

a. BRFSS estimates age-adjusted to 2000 std population and including 95% confidence interval (±)
b. BRFSS age-adjusted rate per 1000 ages 18+ and including 95% confidence interval (±)
c. 2004 rate age-adjusted to 2000 std population for deaths as underlying or contributing cause

Data Source: Bureau of Health Statistics and Research, Pennsylvania Department of Health.
HOW WAS THE ACTION PLAN CREATED?

In 2004, the Pennsylvania Department of Health’s Diabetes Prevention and Control Program (DPCP) in collaboration with the members of the Diabetes Stakeholder Group (DSG) conducted a statewide diabetes public health system assessment. The statewide diabetes public health system in Pennsylvania is a network of individuals and organizations that share the responsibility to guarantee quality diabetes care and prevention in Pennsylvania. The assessment conducted was based on CDC’s ten recommended Essential Public Health Services. The Essential Public Health Services provide a working definition of public health and a guiding framework for the responsibilities of local public health systems. Among the ten services are monitoring the health status to identify and solve community health problems; diagnosing and investigating health problems and health hazards in the community; and informing, educating and empowering people about health issues. More information about the Essential Public Health Services can be found at http://www.cdc.gov/od/ocphp/nph-psp/EssentialPHServices.htm. The results of the survey were used to guide the group in the first steps of developing the Action Plan.

The group was convened again in November 2005 for the first Diabetes Summit facilitated by the Department and hosted by the University of Pittsburgh. The group brainstormed goals and activities to be incorporated into a Diabetes Action Plan and created four functioning work groups: Surveillance, Evaluation, Standards of Care, and Health Policy. Throughout the next year, stakeholders worked on components, goals, and activities via phone, e-mail, and face-to-face meetings. The draft Plan was presented at the October 2006 Diabetes Stakeholder Group meeting. Work Groups assigned to each of the four components continue to work on implementing strategies in the Plan.

HOW WILL THE ACTION PLAN BE IMPLEMENTED?

Although this Plan has been created to be used and implemented by all the organizations and individuals in Pennsylvania that have an interest in diabetes related issues, the three major forces that will implement it are the Pennsylvania Diabetes Action Partnership (PDAP), the Pennsylvania Department of Health Diabetes Prevention and Control Program (DPCP), and Action Plan Champions, all described as follows.

- **Pennsylvania Diabetes Action Partnership (PDAP)**
  The Pennsylvania Diabetes Action Partnership (PDAP), a newly formed structure replacing the Diabetes Stakeholder Group, is a diverse, multi-disciplinary partnership of agencies, organizations and individuals in the Commonwealth interested in addressing diabetes in a coordinated approach based upon the Pennsylvania Diabetes Action Plan. Anyone or any organization is welcome and encouraged to participate with key partners being recruited for membership. The composition of the PDAP will be representative of the burden of diabetes in Pennsylvania, demographically and geographically. In addition to working towards the completion of the goals of the Action Plan, the PDAP will facilitate state-wide networking and resource sharing. The group will be organized to provide guidance and recommendations to the Department concerning the implementation of the Plan.
and continued development of the Pennsylvania Diabetes Action Plan (See Figure 1-6).

- Pennsylvania Department of Health Diabetes Prevention and Control Program (DPCP)
  The program strives to reduce the burden of diabetes in Pennsylvania and improve the quality of life of those Pennsylvanians having diabetes by preventing and controlling its complications. Staff from the program, both in regional and statewide roles, will coordinate events that support the completion of the goals of the Plan. The DPCP will also support the efforts of surveillance, data collection, and analysis.

- Action Plan Champions
  It is understood that there will be individuals, organizations and entities which do not wish to be a part of the formal Diabetes Action Partnership, but will be contributing factors to the success of the Action Plan. The creation of the category of Plan Champions will provide an opportunity for those individuals, organizations and entities to work towards the completion of the goals of the plan by sharing intervention strategies and results that are in line with the Plan.

The Plan contains a comprehensive list of goals and recommended action steps that are intended to guide the activities of the interacting entities. In the months that follow the release of the Plan, the PDAP will meet to prioritize the Goals of the Action Plan. Once the Goals are prioritized, the PDAP will continue refining the Action Steps within each goal, completing the final details needed to move into the implementation phase (i.e. key roles, responsibilities, and evaluation plans).
| PDAP Core Team | • consists of Department Staff and Chair and Vice Chair of the Executive Leadership Team  
|                | • provides leadership, direction and guidance (i.e. meetings agendas, sensitive items, etc.) to the PDAP Executive Leadership Team |
| PDAP Executive Leadership Team | • consists of members from key diabetes partners in Pennsylvania, work group chairs and Department staff  
|                               | • provides leadership to PDAP  
|                               | • makes recommendations to the DPCP  
|                               | • plans PDAP meetings and activities |
| PDAP Work Groups | • Surveillance, Standards of Care, Health Policy, and Evaluation  
|                   | • consist of general members of the PDAP  
|                   | • implement the Plan’s component goals and action steps  
|                   | • provide recommendations to the PDAP Executive Leadership Team via chairs of the work groups |
| PDAP Evaluation Team | • consists of Department staff, key executive leadership team members, and general members of the PDAP with expertise in evaluation  
|                      | • evaluates progress and outcomes of the Diabetes Action Plan  
|                      | • issues regular reports with the intention of updating and improving marketing and implementation of the Plan |
THE GOALS OF THE Diabetes Action Plan

The primary goal of the Diabetes Action Plan is to focus individual, organization and agency energy and efforts towards reducing the burden of diabetes in Pennsylvania. The components or focus areas in the Action Plan were created based on the results of a statewide assessment of CDC’s ten recommended Essential Public Health Services. The four major areas include:

- **Surveillance**—to establish a solid base of knowledge about the populations at risk and to collect and monitor data for diabetes trends in order to focus the use of diabetes resources and efforts.

- **Standards of Care**—to identify and disseminate diabetes standards of care and increase awareness of the importance of early diagnosis, good management, and effective prevention strategies to ensure that all people with diabetes receive the same level of excellent care.

- **Health Policy**—to work toward change and utilize Pennsylvania laws, regulations, standards, enforcement, authority, and funding in ways that improve diabetes care and decrease health disparities.

- **Evaluation**—to investigate and measure the impact of diabetes prevention and control activities and services to enable decision makers to identify effective programs.

Throughout each of these components, the Diabetes Stakeholder Group chose six overarching themes to be addressed in completion of the goals.

- **Focus on prevention**: take every opportunity to make the public and policy makers aware of the power of lifestyle changes to prevent diabetes—and to prevent complications in people who already have diabetes.

- **Eliminate health disparities**: improve access to and availability of education and medical care to meet the needs of those disproportionately burdened by diabetes due to differences in gender, race or ethnicity, education or income, disability, geographic location or sexual orientation.

- **Ensure access to medical care**: ensure all Pennsylvanians have access to quality diabetes care and treatment.

- **Use evidence-based research and best practices**: use research to design prevention and treatment programs that incorporate best practices and lead to more positive outcomes and sharing success stories.

- **Employ technology**: use the internet and other technology to dispense and gather information; survey populations; share success stories; and provide guidance to patients, providers, and payers.

- **Coordinate efforts and create partnerships**: share resources and responsibility to reduce the burden of diabetes on the people of Pennsylvania and establish metrics for tracking costs, performance measures, processes, and outcomes.
1. Surveillance Component

**Objective 1.1:** Develop a more comprehensive statewide surveillance system for diabetes in Pennsylvania that allows new sources of data to be continually identified, and develop a systematic process to integrate multiple data sources to provide an accurate picture of diabetes as a chronic disease as well as its risk factors and self management.

**Action Steps**
1. Assess diabetes data currently available.
2. Research, acquire, and assess diabetes data not routinely utilized by PA DOH or other Diabetes Action Plan members in the Commonwealth.
3. Expand diabetes surveillance to provide a more comprehensive picture of diabetes in children (infant to 18 years) and disparate populations.
4. Define key issues, needs, and requirements of an ideal Commonwealth-wide diabetes surveillance system.
5. Add questions to the Diabetes Module BRFSS to address crosscutting issues and access to care.
6. Engage the legislative Diabetes Caucus or other related body to discuss possible ways to improve the diabetes surveillance system in Pennsylvania.
7. Work with the Health Policy Work Group to determine the advantages, disadvantages, feasibility, and cost to make diabetes a reportable disease.

**Indicators of Success**
- Surveillance System is recognized by CDC as a best practice
- Number of diabetes programs and services throughout the state that are data driven and evidence based
- Expansion and Surveillance system includes more sources of data in 2008 than are available in 2007, more in 2009 than in 2008, and so forth

**Objective 1.2:** Create an efficient and effective way to communicate diabetes surveillance data to people in Pennsylvania.

**Action Steps**
2. Partner with organizations with a stake in better diabetes care to distribute and promote the use of Pennsylvania diabetes surveillance data.

**Indicators of Success**
- The number of organizations and agencies that incorporate diabetes surveillance data into their planning
- Organizations in search of diabetes data are able to access data as needed

**Responsibility for Surveillance Component:** The PDAP, the DPCP Administrator of Planning and Development, and the epidemiologist assigned to the DPCP in the PA DOH are responsible for assessing and implementing recommendations included in the Surveillance Component.
2. Standards of Care Component

**Objective 2.1:** Adopt a single set of standards for the care of diabetes and communicate these standards to a wide variety of audiences.

**Action Steps**
1. Assess current outpatient diabetes standards of care guidelines and adopt the most comprehensive, data-driven set of standards to promote and use in Pennsylvania.
2. Establish partnerships with key stakeholders who will use the standards of care.
3. Develop a communication strategy for all media—TV, radio, internet, scientific literature—to include the diabetes standards of care as part of their message.
4. Identify specific inpatient standards.

**Indicators of Success**
- Number of providers and insurers that use the recommended diabetes standards of care for reimbursement purposes
- Progress toward meeting Healthy People 2010 diabetes objectives

**Objective 2.2:** Establish collaborations/partnerships with other agencies, organizations, insurers, employers, and groups on the prevention of diabetes, the prevention of diabetes complications, and the development of wellness programs.

**Action Steps**
1. Educate health professionals and other groups to focus on risk factors for diabetes and provide referral and resource information.
2. Develop and utilize a widespread primary diabetes prevention media campaign.
3. Encourage the implementation of school and workplace wellness programs.
4. Provide staff and community diabetes and wellness education for schools, businesses, community based organizations and health and human service organizations

**Indicators of Success**
- The number of businesses and schools across the state that have wellness programs that include diabetes risk and diabetes management information and appropriate activities
- Reports of activities and successes from community programs focusing on physical activity, better nutrition, and weight loss
- Progress toward meeting the Healthy People 2010 Diabetes Objective 05-03: Decrease the rate of people diagnosed with diabetes to 25 per 100,000 people and Objective 05-05: Decrease the diabetes death rate to 45 per 100,000 people

**Responsibility for Standards of Care Component:** The PDAP, and the PA DOH DPCP, with assistance from other committed partners in the state, are responsible for coordinating recommendations listed in this component.
3. Health Policy Component

**Goal 3.1:** Create an effective diabetes management incentive program across all health care program providers within the entire Pennsylvania Medicaid program.

**Action Steps**
1. Build on the success of Access Plus, PA’s Fee for Service Medicaid program, that currently offers incentives to providers for their quality of care.
2. Evaluate current economic incentives programs with the goal of establishing a uniform set of incentives for all stakeholders.
3. Investigate disease-related incentive programs in other states.
4. Refocus to include outcome incentives.
5. Provide incentives to encourage physicians, health care providers, hospitals, insurers, and consumers to access and use the diabetes standards of care.
6. Explore ways to disseminate effective incentive medical models to others.

**Indicators of Success**
- Number of Medicaid providers that use the diabetes standards of care
- Number of Medicaid patients that receive formal diabetes education
- Decrease in the number of lower-extremity amputations and cases of serious diabetic eye disease in Medicaid patients

**Goal 3.2:** Develop policies to promote the adoption of best practices in diabetes care.

**Action Steps**
1. Promote health information exchange and information technology use to enhance patient care.
2. Establish criteria for centers that demonstrate excellence in providing innovative diabetes care.
3. Assess health care workforce in the state. Promote models of care that address workforce limitations and resources, for example in small or rural communities.
4. Promote use of multidisciplinary teams.
5. Identify and include best practices for inspiring individual responsibility and behavior change.
6. Advocate for alternative delivery methods and coverage.
7. Evaluate environmental influences that affect access to care.

**Indicators of Success**
- Number of organizations that report using best practices of diabetes care
- Progress toward meeting all Healthy People 2010 diabetes objectives

**Goal 3.3:** Ensure that individuals with diabetes are not treated unfavorably and that violations are remedied.

**Action Steps**
1. Identify current legislation that addresses the unfavorable treatment of individuals with diabetes
2. Identify gaps within the legislation.

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The Pennsylvania Diabetes Action Plan
3. Promote legislation/policies to address unequal treatment.
4. Ensure that the legislation provides for enforcement of the law.

**Indicators of Success**

- Number of school children, employees, and members of the general public who have diabetes that report that they participate fully in educational, professional, social, and other activities

**Responsibility for Health Policy Component:** The PDAP and community-based coalitions are responsible for carrying out actions in the Health Policy section. The role of the DOH DPCP is limited to promoting awareness and education about policy issues and procedures.

### 4. Evaluation Component

**Objective 4.1:** Develop a systematic way of evaluating diabetes services and outcomes in Pennsylvania that can be adapted in organizations and programs throughout the state.

**Action Steps**

1. Inventory diabetes programs across the state that currently have evaluation components.
2. Develop an evaluation component for each goal accomplished under the Diabetes Action Plan and track the implementation of the Plan.
3. Develop a process to evaluate ongoing diabetes programs and services.
4. Evaluate adherence to standards of care.

**Indicators of Success**

- The number of organizations that report they use data to make decisions that lead to improvement in the quality of diabetes programs
- Results of various evaluations are used to plan for additional training or other interventions to increase the number of providers using the standards of care

**Objective 4.2:** Identify and evaluate the effectiveness of incentives on the quality of diabetes care.

**Action Steps**

1. Select incentives to be targeted for evaluation (monetary, educational, etc).
2. Identify and explore incentive programs (in this state and others, rural health, Medicare, insurers, etc).
   - See goal 5.
3. Establish goals, performance measures, and outcomes to identify and evaluate the effectiveness of incentives on the quality of diabetes care.

**Indicators of Success**

- The number of instances in which effective incentives are utilized to improve the quality of diabetes care in Pennsylvania
Objective 4.3: Assess diabetes knowledge in disparate populations.

Action Steps
1. Identify current BRFSS data questions on diabetes.
2. Identify gaps in list of questions.
3. Formulate and propose additional questions to the BRFSS.
4. Propose targeted population surveys to assess diabetes knowledge.
5. Work with the DOH Office of Health Equity and partner with Centers for Health Equity at colleges and universities to administer surveys

Indicators of Success
• Increase in the level of diabetes knowledge found in disparate populations

Objective 4.4: Identify process to evaluate legislative impact on diabetes-related policies and issues.

Action Steps
1. Obtain the list of diabetes-related policies and issues.
2. Identify legislative policy timelines to determine impact on diabetes outcomes (e.g., when a policy becomes effective, how long before the impact of the policy can be measured).
3. Monitor the process and current status of legislative initiatives under consideration.
4. Examine the level of compliance by insurers for legislatively mandated benefits.

Indicators of Success
• Process for evaluating legislative impact is in place

Objective 4.5: Evaluate the effectiveness of third-party reimbursement strategies on the quality of diabetes care.

Action Steps
1. Acquire data.
2. Determine a business case for the return on investment (reimbursement).
3. Identify the range of reimbursements for diabetes care.
4. Evaluate the effect of third-party disease management programs on care (see Goal 8).

Indicators of Success
• Number of insurers using reimbursement strategies targeted at improving diabetes care
• Data indicates reimbursement has increased quality of care

The Pennsylvania Diabetes Action Plan
**Objective 4.6: Assess, evaluate and monitor the availability of resources for all stakeholders.**

**Action Steps**
1. Define “resource” and create a list of resources to monitor.
2. Identify covariates that affect access to resources (for example, geographic access, cultural appropriateness).
3. Use geomapping to identify resources for stakeholders and for public use.
4. Research other tools available to evaluate socioecological influences that affect access to care.

**Indicators of Success**
- Number of gaps in the applicability (i.e., culturally appropriate, reading level) and availability of resources are identified.

**Objective 4.7: Measure the economic burden of diabetes every two years.**

**Action Steps**
1. Define the parameters of economic burden.
2. Identify sources of cost data.
3. Determine validity of cost data.
4. Establish a baseline.
5. Evaluate the associated costs of diabetes (e.g., disability, lost work days, savings due to prevention services, etc).
6. Use cost data in evaluating the effectiveness of interventions and strategies.

**Indicators of Success**
- Completion and release of a document that highlights the economic burden of diabetes in Pennsylvania

**Responsibility for Evaluation Component:** The PDAP, others who helped develop the Plan, and community-based coalitions, in concert with the PA DOH, DPCP.
Evaluating the Pennsylvania Diabetes Action Plan will determine the progress towards completion of the Plan’s goals. The evaluation results will be useful not only in assessing the current progress, but will also be used for future strategic planning in the prevention and control of diabetes in Pennsylvania.

The Plan evaluation will assess:
• Use of Plan by stakeholders
• Implementation of action steps
• Progress in achieving Plan goals

The evaluation of both individual pieces of the Plan, as well as, the Plan in its entirety will be evaluated by using the CDC’s six step framework for evaluation. The steps of the framework and a brief description are listed below:

**Engage Stakeholders**—include those involved in the Plan operations (e.g. staff, administrators, partners, sponsors); those served or affected by the program (e.g. clients, family members, community organizations, schools); and primary users of the evaluation results (e.g. persons in a position to make decisions about the Plan)

**Describe the Program**—define the resources (e.g. staff time, money, and technology) needed to implement the Plan; the specific activities (e.g. steps, actions) that need to be conducted; and the changes that are expected to happen as a result

**Focus the Evaluation Design**—decide who are the specific persons that will use the results of the evaluation; what does each person hope to learn from the evaluation; what questions should the evaluation answer

**Gather Credible Evidence**—decide on the specific pieces of information needed to answer questions; translating general information about the program into specific indicators that can be measured and interpreted is needed, as well as, what are the sources of information

**Justify Conclusions**—give reasons for the answers generated

**Ensure use and share lessons learned**—share the conclusions and recommendations with stakeholders

The PDAP Evaluation Team, comprised of staff from the Pennsylvania Department of Health Diabetes Prevention and Control Program, key executive leadership team members and general members of the PDAP with expertise in evaluation is the primary entity involved in evaluation of the Diabetes Action Plan and will plan and execute evaluation of the progress and outcomes. The Team will gather information on the progress of reaching the Plan’s goals and issue regular reports with the intention of updating and improving marketing and implementation of the Plan.
The Pennsylvania Diabetes Action Plan is an important tool to mobilize and guide the efforts of many to lessen the burden of diabetes. Its success will take the efforts and commitment of a diverse group of stakeholders including PDAP, DPCP, and Plan Champions. The goals and action steps will produce measurable outcomes that will help Pennsylvania exceed its Healthy People 2010 goals. Evaluation of the Plan will improve future planning and further implementation to ensure that resources are used effectively and without disparity. Together, with the plan in action, we will reduce the burden of diabetes in Pennsylvania and improve the quality of life for those living with the disease.
Appendix A: Diabetes Stakeholder Group Executive Steering Committee and Work Group Co-Chairs

Diabetes Stakeholder Group Steering Committee

Michael Dunn, MD  
Windber Medical Center

Neil Freedman, MD  
Wellspan Health/South Central Preferred

Robert Gabbay, MD, PhD  
Penn State College of Medicine  
Milton S. Hershey Medical Center

Ingrid Libman, MD, PhD  
Children's Hospital of Pittsburgh

Gerri Weiss  
University of Pittsburgh Diabetes Institute

Don Wilson, MD  
Quality Insights of Pennsylvania

Janice Zgibor, RPH, PhD  
University of Pittsburgh Diabetes Institute

Jan Miller, MA  
Pennsylvania Department of Health, Diabetes Prevention and Control Program

Amy Schweitzer, MPA  
Pennsylvania Department of Health, Diabetes Prevention and Control Program

Robert Goodman, PhD  
University of Pittsburgh Graduate School of Public Health

Terri Lipman, PhD, CRNP, FAAN  
Associate Professor of Nursing of Children  
University of Pennsylvania School of Nursing

Gretchen Piatt, MD  
University of Pittsburgh Diabetes Institute

Phillip Benditt, MD  
United Health care

Linda Siminerio, RN, PhD, CDE  
University of Pittsburgh Diabetes Institute

Jeremy Nobel, MD  
Harvard School of Public Health

Janet Tomcavage  
Director, Clinical Medicare Programs  
Geisinger Health Plan

Diabetes Stakeholders Work Group Co-Chairs

Health Policy  
Michael Dunn, MD  
Neal Freedman, MD

Surveillance  
Ingrid Libman, MD, PhD  
Terri Lipman, PhD, CRNP, FAAN

Evaluation  
Janice Zgibor, RPH, PhD  
Don Wilson, MD

Standards of Care  
Phillip Benditt, MD  
Janet Tomcavage  
Carla Miller, PhD, RD  
(former chair)
Appendix B: Diabetes Stakeholder Group Contributing Organizations

AARP
Adagio Health Council
AETNA
Albert Einstein Health care Network
Allegheny County Health Department
American Diabetes Association
    Central-East PA/SNJ
    Central PA Office
Beaver County Cancer and Heart Association
BodyMedia, Inc
Capital Blue Cross
Centers for Healthy Hearts and Souls
Children's Hospital of Philadelphia
    Van Scovoc & Associates
    Pediatric Endocrine Fellowship Program
    Weight Management and Wellness Center
CIBER, Inc.
Community Health Collaborative
Conemaugh Diabetes Institute
Conemaugh Valley Memorial Hospital
Cumberland Valley Endocrinology Center
Cumberland Valley Obstetrics and Gynecology
DDI
Delphi Health Systems
Diasense, Inc.
Drexel University
    School of Public Health
    Department of Epidemiology and Biostatistics
Duquesne University, Mylan School of Pharmacy
Erie County Department of Health
Erie Retinal Surgery
First Health at PACE
Gateway Health Plan
Geisinger Health Plan
General Clinical Research Center
Giant Eagle, Inc.
GlaxoSmithKline
Greenlee Partners, LLC
H.J. Heinz Company World Headquarters
Harrisburg Area Community College
Harvard School of Public Health
Hatch Engineering

Health America
Health Dialog
Health Promotion Council of SE, PA Inc.
HealthAmerica of PA
Healthy Adams County
Helwig Diabetes Center, Health Center at Trexlertown
Highmark
iMetrikus
Independence Blue Cross
Indiana Regional Medical Center
Jefferson Medical College, Department of Health Policy
Jewish Health care Foundation
Joslin Diabetes Center
Juvenile Diabetes Research Foundation, Philadelphia Chapter
Keystone Rural Health Center
L. Robert Kimball & Associates
Lankenau Hospital
Latino Health Projects
Latrobe Area Hospital, Diabetes Learning Center
Learning Institute
Lion's Diabetes Center
McKeesport Hospital Foundation
Mercy Hospital
Mercy Parish Nurse Program
HHMC - SJV Parish Center
Monongahela Valley Hospital, Center for Diabetes & Endocrinology
Nesbitt Medical Arts Building
Nicole Johnson, Inc
Novo Nordisk, Inc
PA Academy of Family Physicians
PA House of Representatives
PA Pharmacists Association
PENN Rodebaugh Diabetes Center,
    Division of Endocrinology, Diabetes & Metabolism
Penn State University
    College of Health and Human Development
    Department of Biobehavioral Health
    Department of Nutritional Sciences
The Pennsylvania Diabetes Action Plan
Appendix C: Pennsylvania Diabetes Prevention and Control Program

The Pennsylvania Diabetes Prevention & Control Program (DPCP) is an integral part of the Pennsylvania Department of Health. The DPCP strives to reduce the burden of diabetes in Pennsylvania and improve the quality of life of those Pennsylvanians having diabetes by preventing and controlling its complications through limited federal and state funding. Program activities include:

- creating partnerships with communities, providers, health care systems, worksites, and schools
- working with stakeholders to develop and implement plans for statewide actions to address the challenges of diabetes and diabetes related issues;
- promoting culturally appropriate strategies to target disproportionately affected populations for interventions;
- convening stakeholders from across the state to encourage cooperation and collaboration towards the mutual goals of lessening the burden of diabetes; and
- collecting and communicating diabetes surveillance data in Pennsylvania.
Appendix D: References


Appendix E: Diabetes Resources

Below are state and national organizations that address diabetes

Centers for Disease Control
Division of Diabetes Translation
www.cdc.gov/diabetes

Pennsylvania Department of Health
1-877-PA-HEALTH
www.health.state.pa.us

American Association of Diabetes Educators (AADE)
http://aadenet.org

American Diabetes Association
http://www.diabetes.org/

American Dietetic Association
http://www.eatright.org

American Heart Association—The Heart of Diabetes
http://www.s2mw.com/heartofdiabetes/index.html

National Diabetes Education Program (NDEP)
http://ndep.nih.gov/

National Institute of Diabetes and Digestive Kidney Diseases (NIDDK)
## Healthy People 2010 Diabetes Cross Cutting Indicators and Pennsylvania Profiles

<table>
<thead>
<tr>
<th>Indicator</th>
<th>HP2010 Goal</th>
<th>PA Profile (2005 unless noted)</th>
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| Objective 04-07  
Decrease the rate of kidney failure due to diabetes | 78 | 137.4\(^{b}\) |
| Objective 12-09  
Decrease the percentage of adults who have been told that their blood pressure was high | 16 | 25±1\(^{a}\) |
| Objective 19-02  
Decrease the percentage of obese adults | 15 | 26±1\(^{a}\) |
| Objective 22-01  
Reduce the percentage of adults who engage in no leisure time physical activity | 20 | 25±1\(^{a}\) |
| Objective 22-02  
Increase the percentage of adults who engage in vigorous or moderate physical activity* | 50 | 49±1\(^{a}\) |
| Objective 01-01  
Increase the percentage of adults under 65 with health insurance | 100 | 87±1\(^{a}\) |
| Objective 27-01a  
Decrease the percentage of adults who smoke cigarettes | 12 | 24±1\(^{a}\) |

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*Vigorous is defined as large increases in breathing/heart rate for 20+ min. 3+ times per week.  
Moderate is defined as small increases in breathing/heart rate for 30+ min. 5+ times per week.

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Data Source: Bureau of Health Statistics and Research, Pennsylvania Department of Health.