

Healthcare Services

Primary Health Care

Primary health care is intended to help individuals get well and stay well; it serves as the first line of defense against illness and disease. By offering cost-effective preventive and basic health care services close to home, primary health care can mitigate the need for more expensive trips to specialists and hospitals. Ideally, primary health care services are provided through a “health care or medical home” that can optimally and cost-effectively support improved health and quality of life as a result of quality care; continuity of providers; whole family care; integration of medical, behavioral and oral health care; patient partnerships; and coordination of specialty care needs.

Primary care is comprised of four main features:

- First contact for any new health issue or need
- Long-term, person-focused care
- Comprehensive care for most health needs
- Coordination of care when it must be received elsewhere, such as from a specialist

Primary care providers include general practitioners, internal medicine physicians, family physicians, obstetricians, gynecologists, pediatricians, nurse practitioners, nurse midwives and physician assistants. These clinicians are supported in their work by social workers, case managers and other allied health professionals.

The World Health Organization (WHO), in its Alma Ata Declaration of 1978, defined primary health care as “essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally acceptable to individuals and families in the community through their full participation, and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.” To provide this care, providers must reduce exclusion and social disparities, organize health services around people’s needs and expectations, integrate health into all sectors, pursue collaborative models of policy dialogue, and increase stakeholder participation.

The WHO identifies five basic principles that must be considered in the development of policies and programs to support primary health care as an essential part of an effective and comprehensive health system:

- **Equitable distribution of health care.** Primary care and other services to meet the main health problems of a community must be provided equally to all individuals, regardless of gender, age, caste, color, urban/rural location and social class.
- **Community participation.** Providers must make the fullest use of national, local and other available resources.
- **Health workforce development.** Comprehensive health care relies on adequate numbers and distribution of trained physicians, nurses, allied health professionals, community health workers and other members of a health team, supported at the local and referral levels.
- **Use of appropriate technology.** Medical technology should be accessible, affordable, feasible and culturally acceptable to the community.
- **Multi-sectional approach.** Recognition that health cannot be improved by intervention within just the formal health sector and must involve other sectors (e.g., agriculture, education, communication, housing, public works).

National and state health care systems have faced shortages and uneven distribution of primary care physicians and other providers for years, due to such factors as high debt load of medical school graduates, comparatively low wages, low reimbursement for primary care services, lower esteem accorded primary care within medical schools and health system cultures, job dissatisfaction, and poor work-home balance.

National and State Goals

A significant difference between health care systems of the United States and other developed countries is the ratio of primary care providers to specialists. In the U.S., the balance is tilted with specialists accounting for about 70 percent of physicians and primary care providers for just 30 percent. While the U.S. is a specialist-driven health care system, comparably developed countries have a stronger foundation of primary care providers and better access to primary care. The Affordable Care Act of 2010 includes provisions to shift the pendulum of health care more towards primary care; full implementation is scheduled for 2014.¹

The U.S. Department of Health and Human Services has set Healthy People 2020 goals for improving “access to comprehensive, quality health care services” related to four areas: coverage, services, timeliness and workforce.^{2,3} (Note: insurance is addressed elsewhere in this report; objectives discussed in this section are identified in quotes.)

- **Health insurance coverage** helps patients enter the health care system. Uninsured persons delay care, are less likely to receive care and are more likely to have poor health status and die at a younger age.
- **Improving health care services** depends in part on individuals having a usual and ongoing source of care, as research shows that when this is the case, outcomes are better and health care disparities and costs reduced. Improving services also includes improving access to evidence-based preventive services and quality care. “AHS-3: Increase the proportion of persons with a usual primary care provider; AHS-5: Increase the proportion of persons who have a specific source of ongoing care.”
- **Timeliness** is the health system’s ability to response to a need when it is identified. “AHS-6: Reduce the proportion of persons who are unable to obtain or delay in obtaining necessary medical care, dental care, or prescription medicines.”
- **Adequate workforce** may be the most critical component; without it, services will be unavailable or inconsistent, health insurance coverage irrelevant and timeliness unattainable. “AHS-4: Increase the number of practicing primary care providers.”

The ultimate goal of primary health care is better health for all. WHO has identified five key elements for achieving this goal⁴ including:

- Reducing exclusion and social disparities in health
- Organizing health services around people’s needs and expectations
- Integrating health into all sectors
- Pursuing collaborative models of policy dialogue
- Increasing stakeholder participation

Trends

According to a 2013 report by a U.S. Senate subcommittee on health and aging, more than one in five U.S. residents, totaling nearly 57 million people, live in areas where they do not have adequate access to primary health care due to a shortage of providers. While half of American doctors fifty years ago practiced primary care, fewer than one in three are in this field today. The average age for primary care doctors in the U.S. is 47 years old, and one-quarter of practitioners are nearing retirement.

Nearly all of the growth in number of doctors per capita over the last several decades is due to a rise in the number of specialists. Between 1965 and 1992, the primary care physician-to-population ratio grew by only 14 percent, while the specialist-to-population ratio exploded by 120 percent. While half of patient visits are for primary care, only seven percent of the nation’s medical school graduates now choose a career in primary practice.

According to the Health Resources and Services Administration (HRSA), about 16,000 primary care providers are needed to meet current demand,⁵ and 52,000 will be needed by 2025.⁶ As many as 45,000 people die each year because they lack health insurance and do not get to a doctor on time.⁷

Figure 9.1 Primary Care Physicians per 100,000 Population, United States, 2010^{8,9}

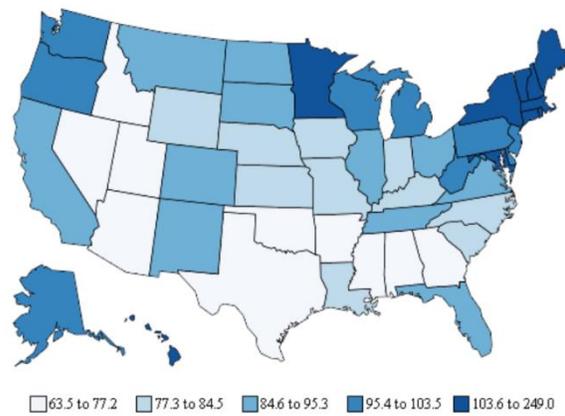
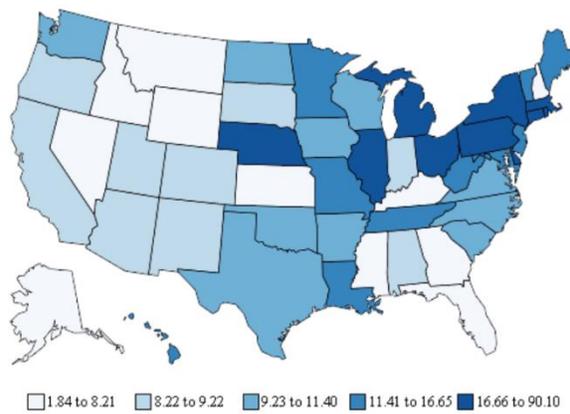


Figure 9.2 Primary Care Residents and Fellows per 100,000 Population, United States, 2010^{10,11}



According to U.S. Census Bureau definitions and 2010 population data, about 88 percent of Pennsylvania’s population resides in urban counties.¹² About 93 percent of physicians practicing direct patient care in Pennsylvania are employed in urban counties.¹³ The statewide rate of physicians practicing direct patient care was 214 per 100,000 population in 2010, but the rate varied widely between counties classified as urban (226 per 100,000 population) and those classified as rural (134 per 100,000 population).

Figure 9.3 Primary Care Physicians per 100,000 Population by County, Pennsylvania, 2010¹⁴

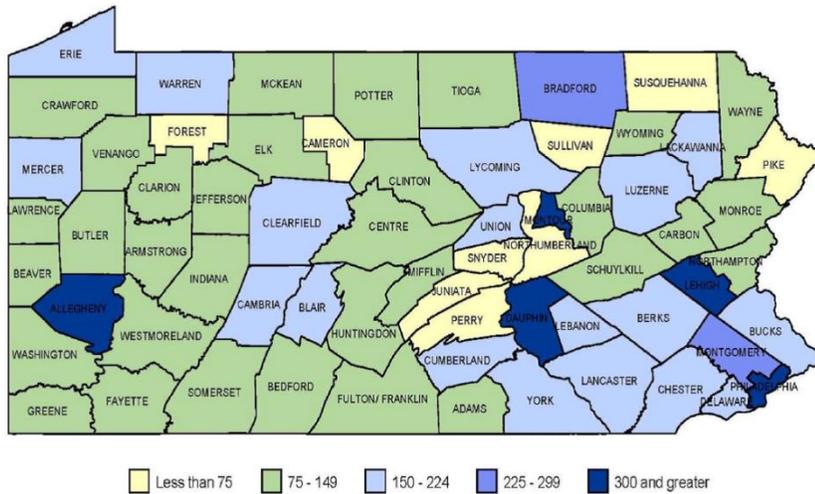


Table 9.1 Adults Ages 18 to 64 with Specific Source of Ongoing Care, Pennsylvania, 2010, 2011, and Healthy People 2020¹⁵

Adults 18 to 64	Pennsylvania		Healthy People 2020 Goal Percent (%)
	2010 Percent (%)	2011 Percent (%)	
All	86±2	84±1	89.4
Male	81±3	79±2	89.4
Female	91±2	89±1	89.4
White	87±2	86±1	89.4
Black	80±6	79±5	89.4
Hispanic	81±10	77±7	89.4
Urban	86±2	85±2	89.4
Rural	85±4	79±5	89.4

Table 9.2 Adults Ages ≥65 with Specific Source of Ongoing Care, Pennsylvania, 2010, 2011, and Healthy People 2020¹⁶

Adults ≥65	Pennsylvania		Healthy People 2020 Goal Percent (%)
	2010 Percent (%)	2011 Percent (%)	
All	97± 1	97± 1	100
Male	96± 2	96± 2	100
Female	98± 1	97± 1	100
White	98± 1	97± 1	100
Black	93± 5	97± 3	100
Hispanic	DSU*	DSU*	100
Urban	97± 1	97± 1	100
Rural	97± 2	95± 5	100

Figure 9.4 Residents without a Personal Health Care Provider, Pennsylvania, 2007 to 2011¹⁷

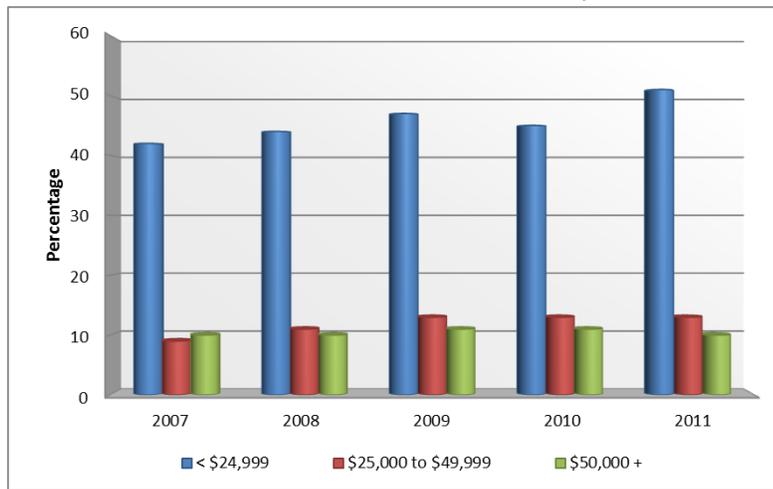


Figure 9.5 Residents Who Could Not Receive Care Due to Cost, by Household Income, Pennsylvania, 2007 to 2011¹⁸

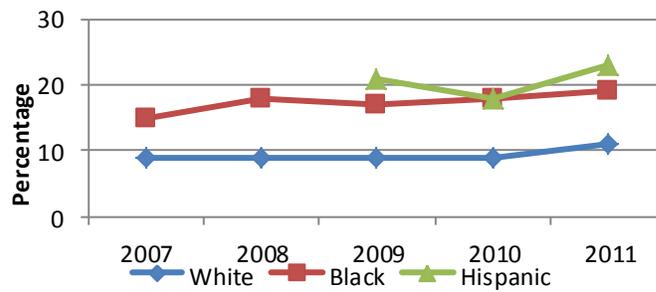


Table 9.3 Licensed Physicians by Sex, Pennsylvania, 2004 and 2010¹⁹

	2004 Percent (%)	2010 Percent (%)
Male	75	72
Female	25	28

Table 9.4 Licensed Physicians by Race and Ethnicity, Pennsylvania, 2010²⁰

	Percent (%)
White	76
Black	3
Asian	14
American Indian/Alaska Native	1
Native Hawaiian/Other Pacific Islander	<1
Other	4
Hispanic/Latino	2

Note: In the 2010 survey, race and ethnicity were combined into one question, providing results that are not comparable to other survey years.

Table 9.5 Practicing Physicians by Sex, Pennsylvania, 2004 and 2010²¹

	2004 Percent (%)	2010 Percent (%)
Male	74	71
Female	26	29

Table 9.6 Practicing Physicians by Age Groups, Pennsylvania, 2004 and 2010²²

	Percent (%) by Age Groups			
	20 to 34	35 to 49	50 to 64	≥ 65
2004	11	46	35	8
2010	10	39	41	11

In 2010, 35 percent of physicians providing direct patient care in Pennsylvania were primary care physicians, defined as family medicine/general practice, internal medicine, pediatrics and obstetrics/gynecology. Overall, the estimated number of primary care physicians providing direct patient care in Pennsylvania increased between 2004 and 2010, from 10,265 to 11,420. The state rate of primary care physicians providing direct patient care in 2010 was 75 per 100,000 population. The rate for rural counties was 54 per 100,000 population; for urban counties, it was 78 per 100,000 population.

Medicaid/Medicare

Not only is it important that people have health insurance when they need medical care, but also that providers are willing to accept their insurance. In response to a question on a survey completed with licensure renewal, 84 percent of Pennsylvania’s physicians who provide direct patient care indicated that they accept Medicaid; 91 percent responded that they accept Medicare.²³

Rates of acceptance varied widely among Pennsylvania physicians. Five of six specialties included in this definition of direct patient care providers increased Medicaid acceptance rates between 2008 and 2010. Pediatricians had the highest Medicaid acceptance rate, at 90 percent. Obstetricians and gynecologists had the highest rate of Medicare acceptance, at 98 percent.²⁴ However, this survey did not collect information about “caps,” or limits put in place by some physicians to restrict the number of patients seen who are covered by a particular insurance, such as Medicaid. It also did not collect information about whether a physician’s practice was accepting new patients, or closed to them. While the wait to see a primary care provider can be long with any type of insurance, people covered by Medicare or Medicaid must sometimes wait longer and face more challenges in accessing care.

With the median student debt of medical students at graduation now exceeding \$160,000, and almost a third of the students owing more than \$200,000 in debt, career and practice decisions may increasingly be influenced by financial considerations.²⁵

Access to Care

Timing is a problem for many persons who need medical care. Unfortunately, due to payment policies and staffing shortages, only 29 percent of U.S. primary care practices provide access to care on evenings, weekends and holidays. Persons who are unable to access care when it is needed typically must delay care, or seek it in an emergency room. Those who visit an emergency room for care miss an opportunity to establish a regular, more cost-efficient and more effective source of primary and preventive health care.

Physician staffing also affects access to care. There must be an adequate number of health professionals available to provide services to the population. An area or population lacking adequate access can be designated as a “Health Professional Shortage Area” (HPSA) or “Medically Underserved Area/Population” (MUA/P) by the federal Health Resources and Services Administration (HRSA), according to federal criteria and regulations.

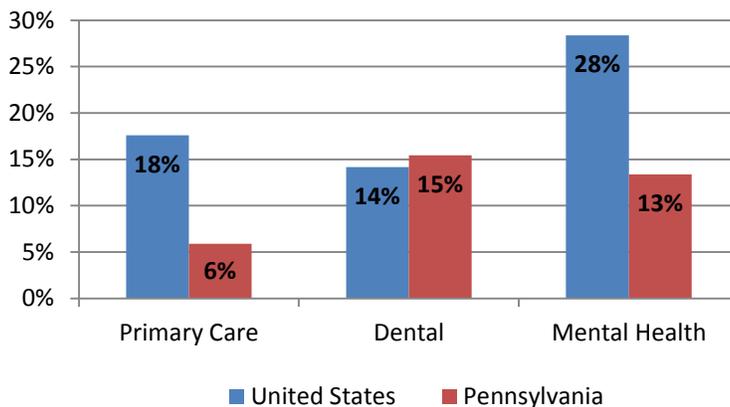
HPSAs are defined primary care service delivery areas with a critical shortage of primary care physicians, dentists, or mental health providers. A HPSA can be a distinct geographic area (e.g., county, group of census tracts, township, borough), or a specific population group within a defined geographic area (e.g., a significant low-income population with household income < 200 percent of the Federal Poverty Level), or a public or non-profit facility (e.g., Federally Qualified Health Center, Certified Rural Health Clinic). An area, population or facility is designated as a HPSA when it meets a defined ratio of population to providers which demonstrates a critical shortage of providers, as defined by federal regulations.

Primary care HPSAs are designated when the primary care physician to population ratio is at or below 1 physician per 3,500 persons in the service area. Dental HPSAs are designated when the general dentist to population ratio is at or below 1 dentist per 5,000 persons in the service area. Mental health HPSAs are designated when the psychiatrist to population ratio is at or below 1 psychiatrist per 30,000 persons in the service area.

Table 9.7 Primary Care Health Professional Shortage Areas, Pennsylvania, United States, 2012²⁶

	Pennsylvania	United States
Designated Health Professional Shortage Areas (DSHAs)	155	5,805
Population of DSHAs	746,398	55,340,531
Percent of population in DSHAs	5.88%	17.58%
Additional providers needed to achieve a population to provider to ratio of 3,500:1	167	15,431

Figure 9.6 Population in Primary Care, Dental, and Mental Health HPSAs, Pennsylvania, United States, 2012²⁷



Medically Underserved Areas/Populations (MUA/P) are geographic areas or populations designated by HRSA as medically underserved according to a determination of underservice, looking at infant mortality rate, poverty rate at 100 percent of the federal poverty level, percent of population aged 65 years and older, and ratio of primary care physicians per 1,000 population. This data is entered into a calculation, and the product is an Index of Medical Underservice score. If the area/population IMU score is 62 or less for the area or population, HRSA designates the area as a MUA/P.

Table 9.8 Number of MUA/Ps, Pennsylvania, United States, 2012²⁸

	Pennsylvania	United States
Medically Underserved Areas/Populations Designations	155	4,135

Intervention Strategies

Community Health Centers (Federally Qualified Health Centers, FQHCs) serve as a model of primary care that aims to provide for equitable distribution of health care, community participation, health workforce development, use of appropriate technology, multi-sectional approach, the principles identified in the WHO's Alma Ata Declaration.

Community health centers are located in shortage areas and open to all, regardless of ability to pay. These centers are private, non-profit community organizations and, as part of a national network of providers, can share successful practices, participate in the national Uniform Data System, access guidance and resources through the U.S. Health Resources and Services Administration and secure support from state primary care associations. The health centers are covered by the Federal Tort Claims Act (FTCA) coverage for FQHC employees; eligible as practice sites for National Health Service Corps, a state loan repayment program for clinicians; and more.

These community-based, patient-directed organizations serve medically underserved communities and vulnerable populations with comprehensive, quality primary health care services. Often, the centers provide dental and behavioral health services in addition to medical care.

Characteristics include:

- Fees based on ability to pay (must offer a sliding fee discount for patients with incomes < 200 percent of federal poverty level)
- Quality primary health care, open to all (with stringent reporting and operational requirements)
- Highly competent healthcare professional team (usually with medical, dental and behavioral health care)
- Community control (at least 51 percent of the governing board must be patients of the center)

Community health centers all share the goal of increasing access to quality primary health care for underserved populations, to eliminate health disparities. The FQHC payment system eliminates the incentive to order unnecessary tests and procedures for profit. The focus is on providing quality care and developing lifelong relationships with patients, to help them get and stay well.

In Pennsylvania, nearly 250 FQHC sites operate in 48 of the state's 67 counties. About 40 percent are in rural areas and 60 percent in urban areas. More than 75 percent of them have implemented an electronic health record system, and about the same number have attained or are in the process of attaining Patient-Centered Medical Home recognition. The FQHCs serve more than 700,000 patients annually.

Many FQHCs offer supportive services in addition to their required core services, including: 340B discount pharmacy services, urgent care, various specialty services, substance abuse services, nutritional counseling, smoking cessation, Nurse-Family Partnerships and outreach and eligibility services. In addition, other important services are often located at the health centers, such as Healthy Start and WIC nutrition programs. Community Health Centers tend to partner with other community organizations and patients to address social determinants of health.

Rural areas may find the comprehensive FQHC model difficult to build and sustain. These areas tend to be smaller and more economically challenged. The population is generally older, on Medicare, in poor health and with a lower income base (e.g., uninsured, Medicaid). While the rural environment affords many opportunities, it also poses some unique problems, including a significant shortage of health professionals.^{29,30}

According to the National Rural Health Association, although nearly 25 percent of U.S. residents live in rural areas, fewer than 10 percent of physicians practice in these areas. Consequently, rural residents face greater challenges in accessing care, making early detection and regular treatment of diseases more difficult.³¹

In Pennsylvania, 48 counties are considered to be rural, and these contain about 27 percent of the state's people. A 2009 workforce report from the state Department of Health pegged the rural physician to resident ratio at about 1 to 663, compared with 1 to 382 in urban areas. It also found that two-thirds of the state's primary care providers practice in five urban counties. Access to medical care in rural areas of Pennsylvania is challenging, and access gaps still exist.³²

Rural Health Clinics (RHCs) also help to address gaps in health care access. In Pennsylvania, nearly 70 RHCs provide health care services. Some are freestanding while others are provider-based; some are for-profit, and others are nonprofit. All are located in non-urbanized shortage areas and use a non-physician provider (e.g., nurse practitioner, nurse midwife, or physician assistant) during at least half of the clinic's hours. RHCs do not have the same stringent operational and access requirements as FQHCs, but they do serve an important role in improving access to primary health care services in rural communities.

Incentive Programs such as the National Health Service Corps (NHSC) and the Pennsylvania Primary Health Care Practitioner Loan Repayment Program are available to help both community health centers and rural health clinics obtain service providers. The state loan repayment program, with its multiple components, seeks to increase the number of primary care providers and services available to residents of designated areas. The state Department of Health, Bureau of Health Planning, Division of Health Professions Development, in partnership with the Pennsylvania Association of Community Health Centers (PACHC) is leading development of the Pennsylvania Primary Care Career Center to support primary health care providers in finding a sense of passion for their work and purpose through good job placement in the state.

The Primary Health Care Practitioner Program was established in 1992 as part of the Children's Health Care Act and gives the Department of Health the responsibility to develop programs that address the problems of supply and distribution of primary health care practitioners (i.e., family physicians, pediatricians, internists, obstetricians, general dentists, certified nurse midwives, physician assistants and certified registered nurse practitioners) in Pennsylvania. The Division of Health Professions Development administers this program. It consists of a number of programs to address areas of underservice and shortage, to increase access to primary care medical and dental services, and to recruit and retain primary health care practitioners in those areas, including: the HPSA and MUA/P assessment, grant programs to assist communities to increase access to care, the Pennsylvania Loan Repayment Program, the State Conrad 30 J-1 Visa Waiver Program, and the NHSC Scholar and Loan Repayment Program.

The Division of Health Professions Development, through a Cooperative Agreement with HRSA, is the lead for the assessment and designation of federal Health Professional Shortage Areas and Medically Underserved Areas/Populations within Pennsylvania. Once it determines that a given area meets the federal criteria, the Division submits an application to HRSA for designation.

The Pennsylvania Loan Repayment Program offers loan repayment assistance for primary care providers who choose to practice at sites in underserved areas. Physicians and general dentists may receive loan reimbursement up to a maximum of \$64,000 over a four-year period. Certified nurse midwives, physician assistants and certified registered nurse practitioners may receive up to a maximum of \$40,000 over a four-year period. The ultimate goal of this program is to retain practitioners in these underserved areas of the commonwealth.

The State Conrad 30 J-1 Visa Waiver program allows for a non-citizen physician who is completing medical training in the U.S. under a J-1 Visa to be sponsored for a waiver of the visa residency requirement to return to the physician's home country upon completion of training. With a Visa Waiver, the physician must work at a site in a HPSA or MUA/P for at least three years. Physicians choosing and completing this program have the opportunity to immigrate to the United States. The ultimate goal is to have the physician remain beyond the three-year commitment.

The National Health Service Corps (NHSC) is a federally funded program that assists primary healthcare organizations located in HPSAs to recruit and retain primary care, dental and mental health practitioners in order to meet the community's need for healthcare practitioners. The NHSC offers two programs: the NHSC Loan Repayment Program and the NHSC Scholar Program. The Scholar Program pays all expenses for the practitioner to attend medical school, with a formal commitment to provide primary care services in a HPSA of greatest need for a period of up to four years after completion of training. The NHSC Loan Repayment Program provides educational loan repayment to providers who agree to provide primary health care services in NHSC designated sites in a HPSA. Providers must commit to a minimum participation of two years and may apply for additional years of loan repayment.

The Community-Based Health Care Grant Program was established by Act 10 of 2013 and is administered by the Division of Health Professions Development. This is a competitive grant opportunity that provides funding assistance to

community-based health clinics such as FQHCs, RHCs, Free Clinics, Nurse Managed Clinics and Hospital Clinics which serve underserved and low-income communities to expand and improve primary and preventive health care access and services. Funding assistance may be utilized to develop new community-based health clinics, expand and improve services at existing clinics, add or expand pre-natal, obstetric, postpartum and newborn care services, develop services to reduce unnecessary hospital emergency room utilization and to implement collaborative relationships with hospitals and other community health care providers to improve community-based health care.

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Patient-Centered Medical Homes

Background

The Patient-Centered Medical Home (PCMH) or “health home” is an approach to provide comprehensive primary care to persons of all ages. It promotes a higher quality of care resulting in healthier patients, reduces costs, empowers patients in their own care, and enhances relationships between patients and providers. Quality care is becoming increasingly important in attracting and retaining patients, as well as qualifying for bonuses and being designated as preferred partners by insurers and other providers across the healthcare continuum.

The PCMH approach is not a new concept. Rather, it originated with the American Academy of Pediatrics (AAP) in 1967 as a centralized location for the medical records of pediatric patients, especially children with special health care needs. It evolved from this concept to a method of providing comprehensive care at the community level.¹ The American College of Physicians (ACP) and the American Academy of Family Physicians (AAFP) then developed their own concepts of this model, expanding it to the adult population. In March 2007, the AAP, ACP and AAFP joined with the American Osteopathic Association (AOA) to develop the “Joint Principles of the Patient-Centered Medical Home.”² Approximately 1,898 Pennsylvania providers are recognized by the National Committee for Quality Assurance (NCQA) 2008 recognition, and another 351 providers with NCQA 2011 recognition.³

A PCMH practice can help meet the Healthy People 2020 goals to attain high quality health care; enjoy longer lives free of preventable disease, disability, injury and premature death; achieve health equity; eliminate disparities and improve the health of all groups; create social and physical environments that promote good health for all; and promote quality of life, healthy development and healthy behaviors across all life stages.⁴ Several promising PCMH initiatives are described in detail below.

PCMH Initiatives

Chronic Care Initiative (CCI)—Pennsylvania first began a PCMH approach in 2007, when its Chronic Care Commission was formed to develop a strategic plan for implementation of the Wagner Chronic Care Model in primary care practices across the state through an effort known as the Pennsylvania Chronic Care Initiative (CCI). Although the commission was dissolved, the CCI continues, as part of the Centers for Medicare and Medicaid (CMS) Multi-payer Demonstration in the southeast and northeast areas of the state.

The CCI includes 401 providers in 35 organizations and health care systems, collecting data on 216,167 patients.⁵ During Phase I, the CCI tested different payment methods, including lump sum payments to practices to cover start-up infrastructure costs, per member/per month payments (PMPM) and shared savings. Enhanced payments were stratified by practice recognition, with higher level practices receiving greater enhanced payment than lower level practices. Since 2009, the state’s contracts have required Medicaid managed care organizations (MCOs) to participate in the CCI. Medicaid fee-for-service, initially in the northeast region only, did not provide enhanced payments to practices during this phase.

Phase II began in 2012 with approximately 54 practices from two of the previous CCI rollout regions (southeast and northeast) participating in the Medicare Advanced Primary Care Practice demonstration, also known as the CMS Multi-Payer Demonstration. Pennsylvania was one of eight states selected for the program, in which the federal government provides enhanced reimbursement to Medicaid-accepting practices. Practices receive PMPM payments from participating payers, based on initiative year and patient age. Participants will be eligible for shared savings payments that will take into consideration practice performance on key quality and cost metrics. As the PMPM amounts decrease from year one to year three, practices will be eligible for greater shares of any savings.

Pennsylvania Family Residency Program and Community Health Center Collaborative—The Pennsylvania Academy of Family Physicians (PAFP) initiated the Pennsylvania Family Residency Practice Collaborative, the largest single state residency program collaborative in the United States in 2010, led by residency program faculty leaders involved in the CCI. The collaborative offers free curriculum and education, technical assistance and resources, faculty mentor support,

data analysis and more to support 47 participating sites across Pennsylvania, including 28 family medicine residency programs and 19 FQHCs, collecting data on more than 23,000 patients with demonstrable improvement across measures such as A1c control, a common blood test used to diagnose types 1 and 2 diabetes, and diabetes self-management.⁶

Participating residency programs will graduate fully licensed physicians immersed in a culture of continuous quality improvement and patient-centeredness. The PAFP also added a Community Health Center Collaborative in 2011.

EPIC-IC—The Pennsylvania Department of Health, in collaboration with the state’s chapter of the AAP, administers the Pennsylvania Medical Home Training Program, also known as “Educating Practices in Community Integrated Care (EPIC-IC).” The statewide initiative is one of four such projects, funded through a Maternal and Child Health Bureau Medical Home development grant. It involves 19 pediatric practices across the state working to improve the way care is delivered to all children, especially children with special health care needs (CSHCN). Since 2002, the AAP chapter has managed the statewide implementation of this project, which includes 689 providers serving about 832,127 children.⁷ The program also supports a project to develop and train child care providers to encourage inclusion of CSHCN in child care settings across Pennsylvania.

PA SPREAD—The Pennsylvania Spreading Primary Care Enhanced Delivery Infrastructure (PA SPREAD), led by the Penn State Hershey Diabetes Institute, aims to build on the success of Pennsylvania’s Chronic Care Initiative and integrate lessons learned in teaching the medical home model, facilitating practices, leveraging information technology resources and testing these innovations in partnership with the Pennsylvania Area Health Education Center (PAHEC) network of preceptor practices. The goal is to establish a robust infrastructure within the statewide AHEC system for ongoing education and support of the medical home and primary care practice transformation. PA SPREAD includes 85 providers in 17 practices, including one FQHC, in serving about 159,775 patients.⁸

Qualis Safety Net Medical Home Initiative—The Qualis Safety Net Medical Home Initiative, facilitated by the Pittsburgh Regional Health Initiative as one of five “Regional Coordinating Centers” across the country, is working with FQHCs in a five-year demonstration project to help develop high-performing patient-centered medical homes and achieve benchmark levels of quality, efficiency and patient experience. The initiative includes seven FQHCs representing 10 practice sites.⁹ It was launched in May 2008 by the Commonwealth Fund, Qualis Health and the MacColl Center for Health Care Innovation at the Group Health Research Institute to develop and demonstrate a replicable and sustainable implementation model for medical home transformation. The other states in the initiative included Colorado, Idaho, Massachusetts and Oregon. The Initiative developed a framework for PCMH transformation, the “Change Concepts for Practice Transformation,” which is used to stimulate specific, actionable steps that lead to improvement.

CMS FQHC Advanced Primary Care Practice (APCP) Demonstration—Pennsylvania was one of just four states selected for AHRQ’s Infrastructure for Maintaining Primary Care Transformation program, which aims to lay the foundation for a nationwide primary care extension service. Federally Qualified Health Centers (FQHCs) are involved in several different collaborative initiatives including the Pennsylvania Academy of Family Physicians Community Health Center Collaborative; Qualis Safety Net Medical Home Initiative, led by the Pittsburgh Regional Health Initiative; PA SPREAD; the State Multi-Payer CMS Demonstration; and the CMS Federally Qualified Health Center Advanced Primary Care Practice Demonstration.

This three-year demonstration project will evaluate the effect of the advanced primary care practice model (PHMH) in improving care, promoting health and reducing the cost of care provided to Medicare beneficiaries served by FQHCs. The eight participating FQHC organizations, which include 15 individual sites,¹⁰ were selected because they met several requirements: served 200 Medicare beneficiaries during a 12-month period prior to their application, acted under clinical supervision of a physician or nurse practitioner and pursued Level 3 PCMH recognition from the National Committee for Quality Assurance (NCQA) by the end of the three-year APCP Demonstration. Participating FQHCs receive a care management fee paid quarterly for each eligible Medicare beneficiary who has received medical care from the site over the past year. The U.S. Centers for Medicare and Medicaid Services (CMS) and HRSA are providing technical assistance to FQHCs; evaluation by CMS will consider practice change over time.

Figure 9.7 Number of Sites with NCQA PCMH Recognition, Pennsylvania, 2012¹¹

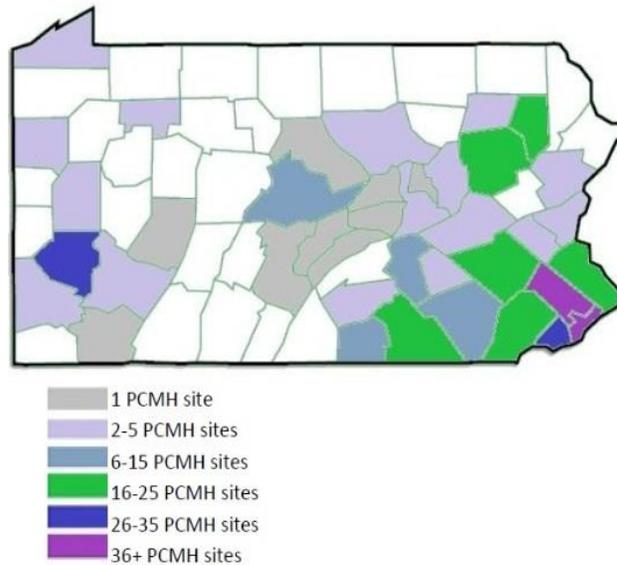
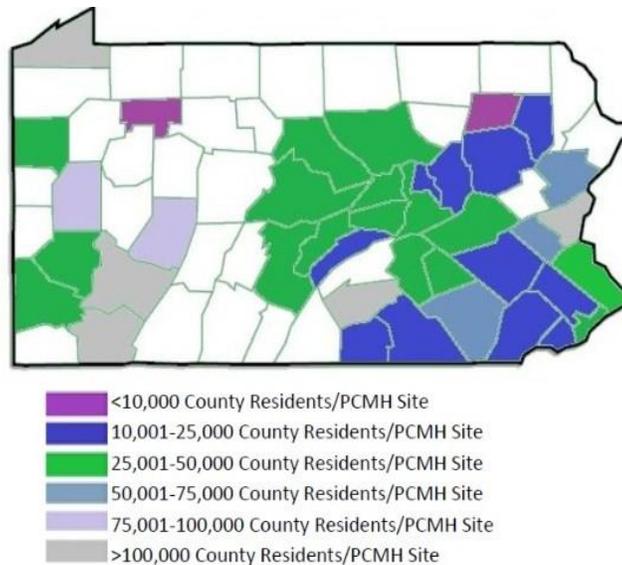


Figure 9.8 Number of County Residents per PCMH Site, Pennsylvania, 2012¹²



- 397 total sites recognized (~86 CCI sites = 22%)
- 2,305 providers certified

Endnotes

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Prenatal and Preconception Care

Prenatal care is comprehensive care for the pregnant woman, including health services, education, counseling, support and referral for resources. Most U.S. women begin prenatal care in the first trimester of their pregnancy; earlier care provides the greatest health benefits for the woman and her child. In fact, an increasing number of experts encourage “prenatal care” to begin prior to conception.^{1,2}

Prenatal care is a window of opportunity for identifying and addressing numerous medical and behavioral health issues.³ Typically, it begins with physical exams, blood tests and conversations about health and lifestyle, including nutrition and physical activity; later visits often include discussion of what to expect at childbirth and parenting a newborn.⁴ Inadequate prenatal care is associated with increased risk of premature births, low birth weight, infant mortality and maternal mortality. Benefits of early and adequate prenatal care include improved birth weights and increased likelihood of full-term births.

Women with high risk issues or chronic medical conditions may benefit especially from preconception counseling, which enables them to collaborate with health care providers on identifying factors which may affect a pregnancy and intervening, as possible.

The vast majority of women who give birth in Pennsylvania obtain prenatal care, most during the first trimester. An examination of birth registration data reveals that just 1.7 percent of all births in 2010 were to mothers who obtained no prenatal care. That same year, 71.3 percent of all births were to mothers who began prenatal care during the first trimester of pregnancy.

In recent years, the percent of mothers who obtained no prenatal care during pregnancy has increased slightly, but remained generally the same at less than 2 percent.

Figure 9.9 Births to Mothers Who Reported No Prenatal Care, Pennsylvania, 2005 to 2010⁵

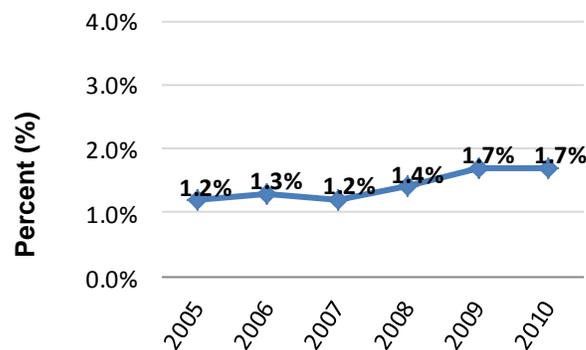
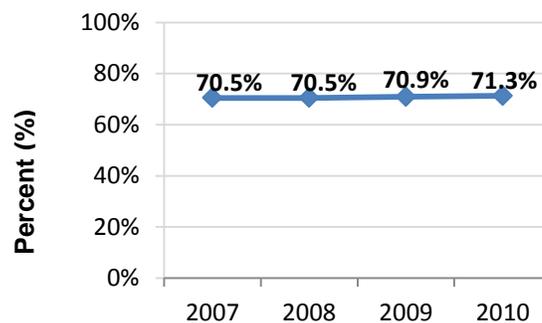


Figure 9.10 Births to Mothers Who Obtained Prenatal Care During First Trimester, Pennsylvania, 2007 to 2010⁶



National and State Goals

The U.S. Department of Health and Human Services set a Healthy People 2020 goal for 10 percent improvement in the rate of women with a live birth who receive prenatal care during the first trimester of pregnancy to 77.9 percent from a baseline of 70.8 percent in 2007.

As shown in Figure 9.10, the percent of mothers in Pennsylvania who obtained prenatal care during the first trimester, as reported on birth certificates, rose slightly from 70.5 percent in 2007 to 71.3 percent in 2010.

Another way to assess this goal is the Kotelchuck Index. Also called the Adequacy of Prenatal Care Utilization (APNCU) Index, the Kotelchuck Index draws two indicators from birth certificate data to provide a more complete picture of prenatal care: when prenatal care began (initiation) and the number of prenatal visits between that point and delivery (received services).

For initiation, adequacy is classified into one of four categories:

- Prenatal care started in pregnancy months 1 or 2
- Prenatal care started in months 3 or 4
- Prenatal care started in months 5 or 6
- Prenatal care started in months 7 to 9

The underlying assumption is that earlier prenatal care is better. For received services, adequacy is determined by comparing the number of actual prenatal visits with the expected number of visits for the period between when care began and the delivery date (drawn from the American College of Obstetricians and Gynecologists prenatal care standards for uncomplicated pregnancies), and adjusted for the gestational age when care began and at delivery. A ratio is calculated and classified into one of four categories:

- Inadequate: Mother received less than 50 percent of expected visits
- Intermediate: Mother received between 50 and 79 percent of expected visits
- Adequate: Mother received between 80 and 109 percent of expected visits
- Adequate plus: Mother received 110 percent or more.

The final Kotelchuck Index measure combines these two dimensions into a single summary score. Applying this approach to women ages 15 to 44 years old who had a live birth in Pennsylvania, the percentage of women whose prenatal care was at least adequate has varied little over the past few years. In 2007, about 65.6 percent of live births occurred to mothers (84,161) who received adequate or better care; by comparison, the Kotelchuck Index for 2010 is 67.9 percent, or 89,153 mothers.⁷

Although the percentage of births to mothers without prenatal care has remained consistently low statewide at less than two percent, one county has had consistently higher percentages. In 2010, the rate in Philadelphia was more than three times the statewide rate, at 6.3 percent compared to 1.7 percent.⁸

In 2010, 14 Pennsylvania counties reported rates of births to mothers who received prenatal care in the first trimester that were significantly lower than the state rate of 71.3 percent. With 52.8 percent, Philadelphia had the lowest rate of prenatal care during the first trimester, among women who went on to have a live birth.

Table 9.9 Counties with Low Percentages of All Births to Mothers Who Received Prenatal Care During First Trimester, Pennsylvania, 2010⁹

	All Births		Births to Mothers Receiving Prenatal Care During First Trimester	
	Number	Number	Percent (%)	95 % Confidence Interval
Pennsylvania			71.3%	70.8% - 71.7%
Philadelphia	20,969	11,076	52.8%	51.8 - 53.8%
Snyder	400	227	56.8%	49.4 - 64.1%
Monroe	1,372	798	58.2%	54.1 - 62.2%
Mifflin	519	305	58.8%	52.2 - 65.4%
Juniata	266	161	60.5%	51.2 - 69.9%
Lancaster	6,719	4,077	60.7%	58.8 - 62.5%
Jefferson	502	308	61.4%	54.5 - 68.2%
Union	386	237	61.4%	53.6 - 69.2%
Perry	565	369	65.3%	58.6 - 72.0%
Franklin	1,909	1,278	66.9%	63.3 - 70.6%
Lebanon	1,594	1,072	67.3%	63.2 - 71.3%
Crawford	945	643	68.0%	62.8 - 73.3%
Delaware	6,609	4,518	68.4%	66.4 - 70.4%
Dauphin	3294	2,259	68.6%	65.8 - 71.4%

Age

Based on birth certificate data for the three-year period from 2008 to 2010, just over half of all births are to mothers in their twenties. Of all age groups, these mothers are most likely to receive no prenatal care.

Figure 9.11 Births by Maternal Age, Pennsylvania, 2008 to 2010¹⁰

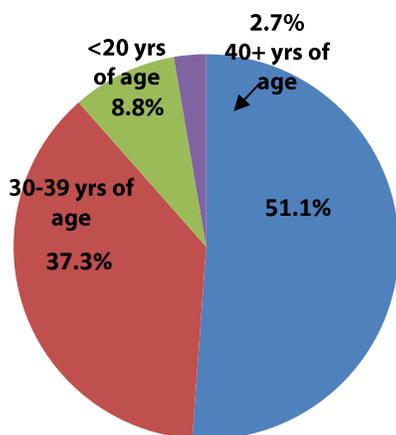
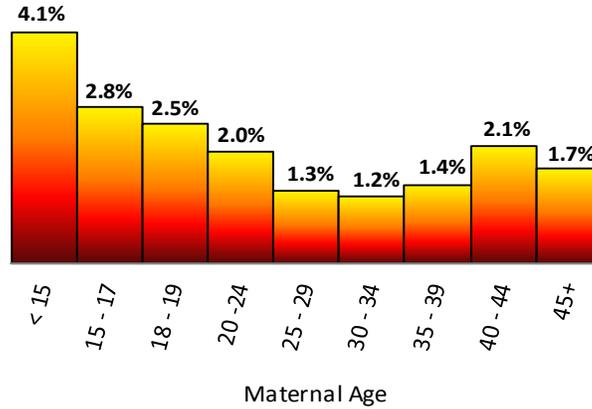
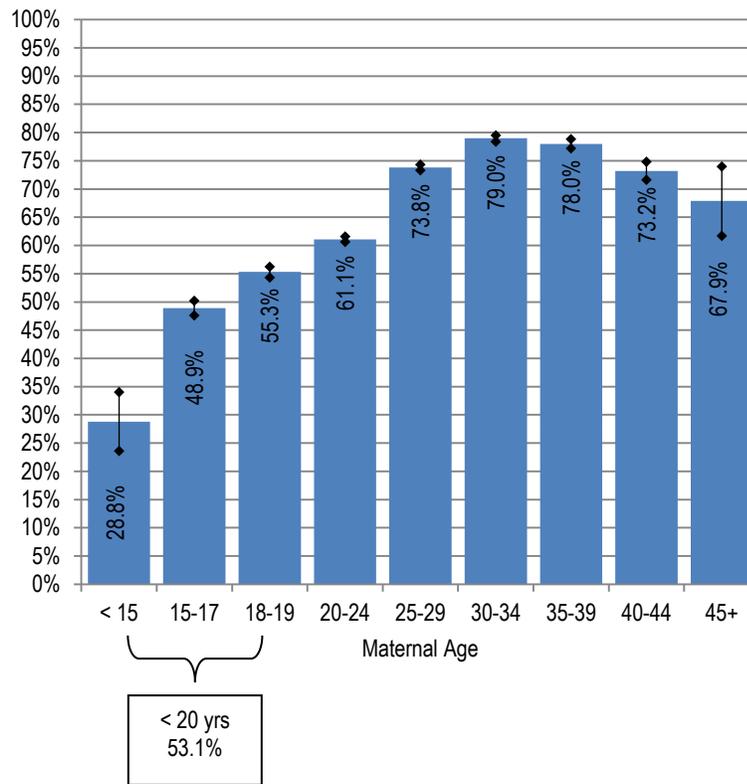


Figure 9.12 Births to Mothers Who Received No Prenatal Care, Pennsylvania, 2008 to 2010 (3-Year Summary)¹¹



Mothers' aged 30 to 34 years of age were most likely to obtain prenatal care in the first trimester (79.0 percent) and teen mothers (younger than 20 years old) were the least likely (53.1 percent). Among teen mothers, those younger than 18 years old were the least likely to obtain care during their first trimester (48.1 percent).

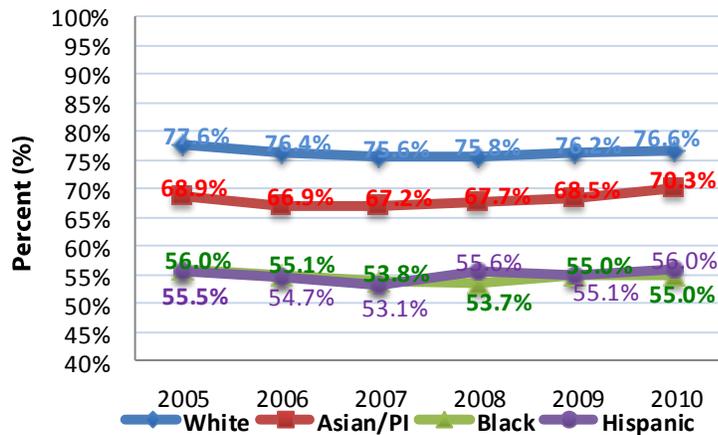
Figure 9.13 Births to Mothers Who Obtained Prenatal Care During the First Trimester by Maternal Age, Pennsylvania, 2008 to 2010 (3-Year Summary)¹²



Race and Ethnicity

From 2005 to 2010, white mothers were more likely to obtain prenatal care during their first trimester than mothers of other races or ethnicity. In 2010, Pennsylvania's white mothers were approximately 1.1 times more likely to obtain care during the first trimester than mothers who were Asian or Pacific Islanders and about 1.4 times more likely than black or Hispanic mothers.

Figure 9.14 Births to Mothers Who Obtained Prenatal Care During the First Trimester by Race and Ethnicity, Pennsylvania, 2005 to 2010¹³



Further examination of prenatal care by maternal race and ethnicity over the three-year period from 2008 to 2010 reveals that the percentage of all births to mothers who received no prenatal care is highest among black mothers (4.7 percent), followed by Hispanic mothers (1.9 percent), Asian or Pacific Islanders (1.4 percent) and white mothers (0.9 percent).¹⁴

Income

Mothers who respond to Pennsylvania's Pregnancy Risk Assessment Monitoring System (PRAMS) survey provide information about their pretax household income during the 12 months before their latest birth. In selecting their income category, respondents are asked to include their income, their husband's or partner's income and any other income they may have used during that time. According to the 2008 weighted data from 29 PRAMS states, Pennsylvania is not significantly different than the other 28 PRAMS states for mean of all income categories. Ranking states from highest to lowest based on the percentage of mothers indicating a household income of \$50,000 or more produces a range from 17.4 percent in Mississippi to 52.5 percent in Massachusetts. Pennsylvania's percentage of 39.6 it is not significantly different than the 29-state mean of 36.9 percent for that high income group.¹⁵

Public or Private Care

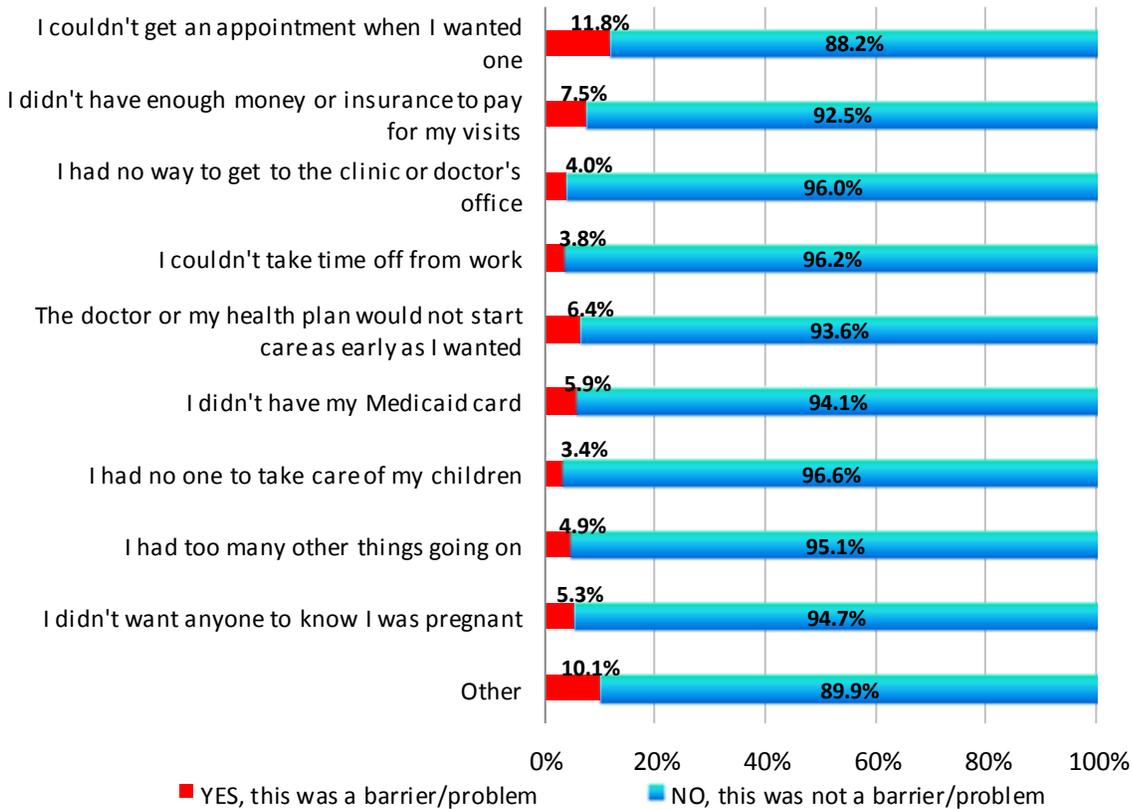
Weighted response data from the Pennsylvania PRAMS survey were analyzed to compare the frequency of obtaining prenatal care through public or private sources. Sampled mothers were asked to identify where they attended prenatal care visits most of the time. Responses were coded into two categories: "public" sources of care included hospital and health department clinics and community health centers; "private" care providers included doctor's offices, HMO clinics and midwifery practices.

According to 2007 and 2008 weighted response data, 69.5 percent of Pennsylvania mothers obtained prenatal care from private sources, while 30.5 percent received prenatal care at public locations.

Barriers to Care

Respondents to the Pennsylvania PRAMS survey were asked to identify specific barriers to prenatal care during their most recent pregnancy. They were able to identify more than one from a list of possible barriers. The most frequently identified barrier was inability to get an appointment at a desired time (11.8 percent). Considering data just from those mothers who identified their pregnancy as “unintended,” this barrier remained the top response, at 15.9 percent.

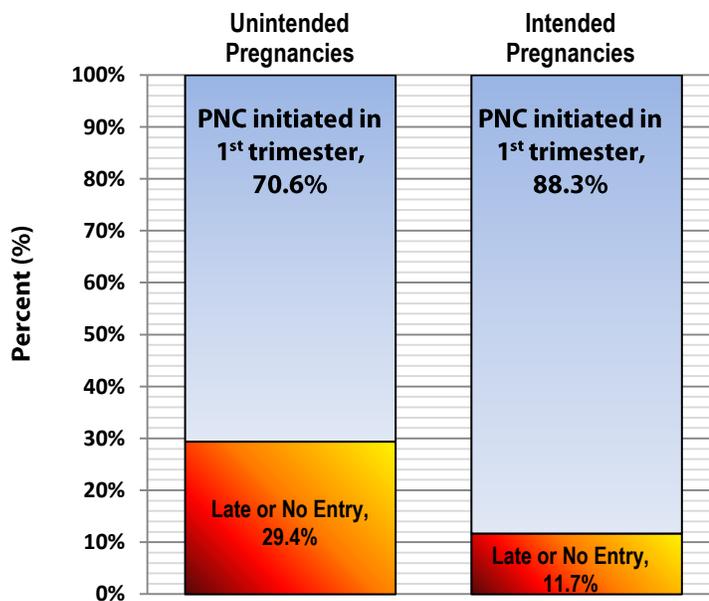
Figure 9.15 Barriers to Prenatal Care, Pennsylvania, 2007 and 2008¹⁶



Pregnancy Intention

All women who completed the PRAMS survey were asked if their latest pregnancy was intended. In responding, mothers were asked to reflect upon the time just before they became pregnant and identify how they felt about it. Response data were analyzed to determine whether unintended pregnancies were more likely to result in late or no prenatal care. This analysis shows that about 41.7 percent of mothers did not intend to become pregnant, while 58.3 percent did. As expected, mothers with unintended pregnancies were 2.5 times as likely to indicate late or no entry into prenatal care. Within the subpopulation of mothers who said their latest pregnancy was unintended, 29.4 percent indicated late or no prenatal care, compared with just 11.7 percent of those who said their latest pregnancy was intended.

Figure 9.16 Prenatal Care by Pregnancy Intention, Pennsylvania, 2007 to 2008¹⁷



Intervention Strategies

Prenatal Counseling—Typically, care providers discuss many health issues with pregnant women, in an effort to fully identify and address potential problems. The PRAMS survey asks respondents questions designed to collect data about the frequency with which important topics are included in prenatal care visits. A comparison of state data and national PRAMS mean figures shows that Pennsylvania providers (e.g., doctors, nurses, health care workers) discuss these topics with patients at about the same rate as national providers.

Table 9.10 Prenatal Counseling Topics, 2007 and 2008¹⁸

Health Care Worker Talked About:	Pennsylvania Percent (%)	PRAMS—29 States Percent (%)
Smoking	75.6%	74.0%
Breastfeeding	83.5%	84.4%
Alcohol consumption	74.9%	74.2%
Seatbelt use	58.3%	54.6%
Importance of testing for birth defects and diseases	90.8%	89.4%
Early labor	84.1%	85.2%
Importance of testing for HIV	78.1%	78.0%
Physical abuse	57.8%	52.9%

Home Visits and Centering Pregnancy—Nine of the ten county municipal health departments in Pennsylvania provide home visitation services. Home visitors are in a unique position to emphasize the importance of regular prenatal care and ensure women are keeping medical appointments.

County municipal health departments provide early pregnancy testing and offer women assistance in obtaining prenatal care as well as home visitation services. Pennsylvania has recently developed several Centering Pregnancy initiatives. Centering Pregnancy is a multi-faceted model of group health care that integrates the three major components of care: health assessment, education and support into a unified program. Women participating in centering pregnancy programs are more likely to receive adequate prenatal care and initiate breastfeeding. A 2007 study published in the *Journal of Obstetrics & Gynecology* reported that in a randomized controlled trial, women who received Centering Pregnancy care were 33 percent less likely to have preterm births than their counterparts who received standard prenatal care.¹⁹

In 2010, the percentage of pregnant women on Medicaid who received adequate prenatal care before giving birth was 61.4 percent compared to 70.8 percent of non-Medicaid mothers.²⁰ These numbers reflect no change from those reported in 2009. Through Block Grant funds, the Division of Child and Adult Health Services (DCAHS) within the Department's Bureau of Family Health continues to support various maternal and infant home visiting programs at the 10 local county municipal health departments.

Resources

CDC PRAMS—<http://www.cdc.gov/PRAMS>

CPONDER—<http://www.cdc.gov/prams/CPONDER.htm>

PA PRAMS—<http://www.health.state.pa.us/paprams>

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Dental Care

Oral health is crucial to overall physical health and well-being and reliant upon good self-care (i.e., brushing with fluoride toothpaste, daily flossing and professional treatment). Health behaviors that can affect oral health and thereby influence general health include: tobacco use, excessive alcohol use and poor dietary choices, such as overindulgence of sugary foods or beverages. Barriers to use of preventive interventions and treatments include: limited access to dental services (including lack of availability), lack of awareness of the need for care, cost and fear of dental procedures. Generally, people with lower levels of education and income have higher rates of dental disease; poor oral health is also a greater risk for people who have disabilities and other conditions, such as diabetes.

Although more than a decade old, a 2000 report by the U.S. Department of Health and Human Services gives a sense of the costs related to oral health in this country. According to that analysis, illness related to oral health results in 6.1 million days of bed disability, 12.7 million days of restricted activity and 20.5 million lost workdays annually.¹ Much of this hardship is preventable.

National and State Goals

Lack of access to dental care for people of all ages remains a public health challenge. The U.S. Department of Health and Human Services targets three areas for oral health improvement in its Healthy People 2020 Oral Health objectives:²

- **Awareness:** Increase awareness of the importance of oral health to overall health and well-being
- **Prevention:** Increase acceptance and adoption of effective preventive interventions
- **Disparities:** Reduce disparities in access to effective preventive and dental treatment services

Annual dental check-ups are encouraged by medical authorities, including the American Dental Association and others. The Healthy People 2020 target for percent of persons aged two years and older who have had a dental visit within the past year is 49.0 percent, which would be a 10 percent increase from the 2007 baseline rate of 44.5 percent of persons aged two years and older.³

The Pennsylvania Medicaid Policy Center at the University of Pittsburgh's Graduate School of Public Health has reported that although the majority of children on Medical Assistance are enrolled in managed care, but only 42.8 percent of these children had an annual dental visit in 2009, including periodic oral exams and diagnostic and preventive care, such as fillings and fluoride treatment.⁴

Healthy People 2020 set a goal for FQHCs to include an oral health care component. At the 2007 baseline, 75.0 percent of FQHCs had an oral care component; the target for 2020 is 83.0 percent. According to a 2011 state report, 27 of Pennsylvania's 35 reporting FQHCs provide on-site dental services. At 77 percent, the state is above national baseline but below 2020 goal for this indicator.⁵

For children's dental health, Pennsylvania only met three of eight benchmarks for a 2011 Pew Center on the States report. This was a small improvement over 2010, when Pennsylvania met just two of the eight benchmarks and received a failing grade from Pew. Forty-one states received a better grade than Pennsylvania.⁶

Figure 9.17 Assessment of Pennsylvania’s Policy and Programs for Dental Health of Children



The Pennsylvania Department of Public Welfare (DPW) is pursuing oral health goals as outlined by the Centers for Medicare and Medicaid Services Oral Health Strategy:⁷

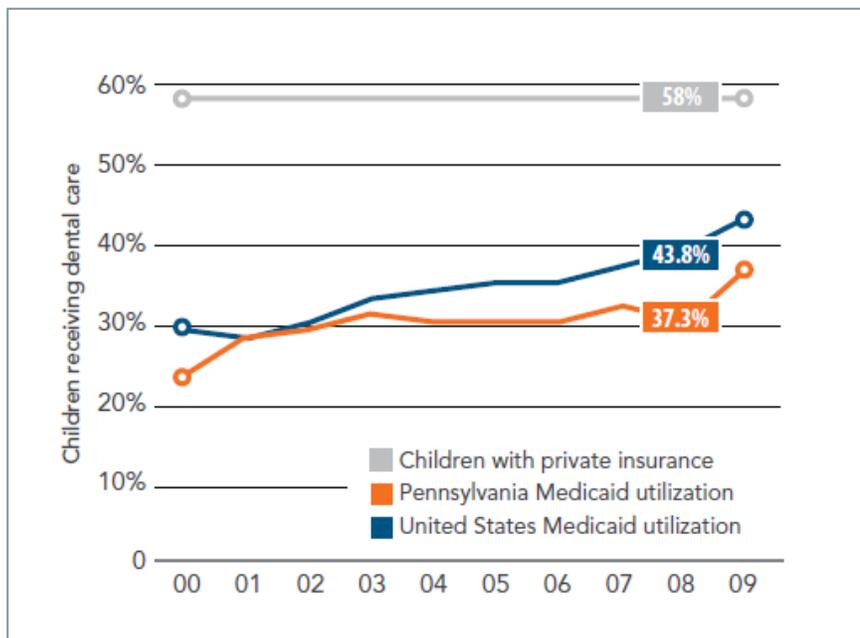
- **Preventive pediatric dental care:** Increase the rate of children ages one to 20 enrolled in Medicaid or CHIP who receive any preventive dental service by 10 percent over a five-year period.
- **Pediatric dental sealant:** Increase the rate of children ages 6 to 9 enrolled in Medicaid or CHIP who receive a dental sealant on a permanent molar tooth by 10 percent over a five-year period.

In 2008, DPW initiated Dental Disease Management in the ACCESS Plus Program, an enhanced primary care case management program contracted by the Medical Assistance Program to operate in the 42 counties without HealthChoices in place. The program encouraged preventive dental care, as well as the establishment of dental homes and pay-for-performance incentives to dentists for meeting quality performances benchmarks. The largest cohort of participants was children. The ACCESS Plus program has been replaced with statewide Medicaid managed care. In 2010, DPW initiated Medicaid payments for topical fluoride varnish application to certified primary care physicians and Certified Registered Nurse Practitioners.⁸

Pediatric Dental Care

Although the percent of children on Medicaid who received dental care increased between 2000 and 2009, more than half of Pennsylvania children on Medicaid still lacked dental service in 2009. This is a significantly lower rate of pediatric dental care than received by children with private insurance.⁹

Figure 9.18 Children Receiving Dental Care by Type of Insurance, Pennsylvania, 2000 to 2009¹⁰



Availability of Care

Recognizing that lack of dental care may in part be due to lack of providers, Table 9.11 shows the number of dentists and dental hygienists in the state who are eligible for license renewal, the number who renewed and the rate of license renewal.

Table 9.11 Dental Care Providers, Pennsylvania, 2003 to 2011¹¹

	2003	2005	2007	2009	2011
Dentists					
Eligible for License Renewal	10,235	10,249	9,937	11,238	
Renewals	9,241	8,757	9,222	9,274	9,428
Renewal Rate	90%	85%	93%	83%	
Dental Hygienists					
Eligible for License Renewal	7,285	7,534	7,835	8,276	
Renewals	6,745	6,787	7,440	7,934	8,304
Renewal Rate	93%	90%	95%	96%	

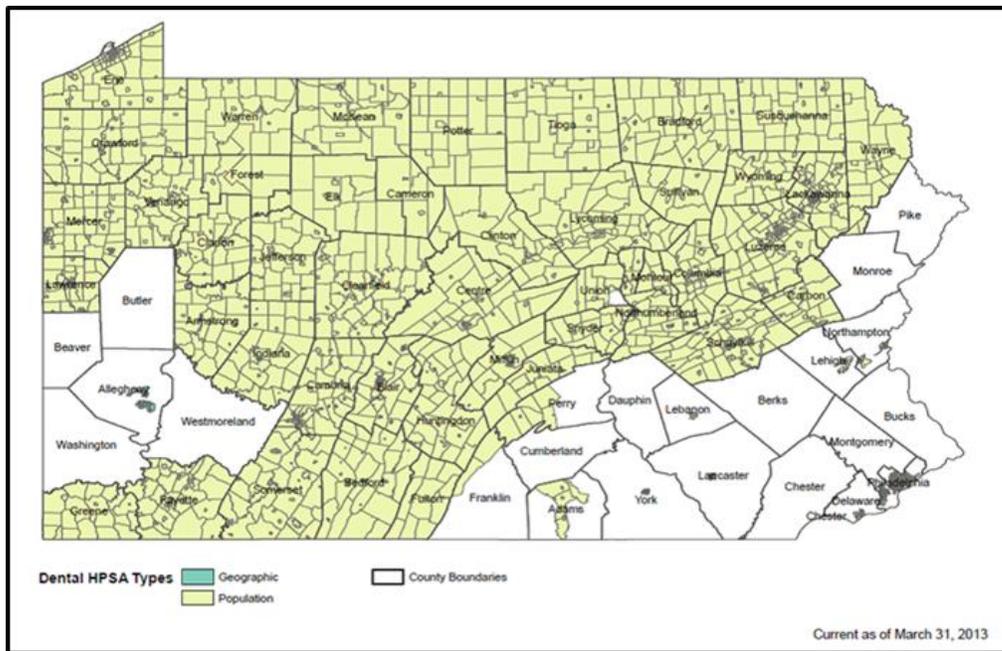
Health Professional Shortage Areas

Health Professional Shortage Areas (HPSAs) are health care service delivery areas with a critical shortage of primary care physicians, dentists or mental health providers, and they can be defined according to geography (e.g., county, census tract grouping, township, borough) or specific population group (e.g., significant low-income population with incomes < 200 percent of the Federal Poverty Level) or a public or non-profit facility (e.g., Federally Qualified Health Center, Certified Rural Health Clinic). An area, population or facility is designated as a HPSA when it meets a specific, federally-determined population-to-provider ratio demonstrating a critical shortage of providers. Currently, about 2 million Pennsylvania residents (15 percent) live in dental health professional shortage areas.

Table 9.12 Dental Health Professional Shortage Areas, Pennsylvania and United States, 2012¹²

	PA	US
Designated health professional shortage areas (HPSAs)	153	4,534
Population in HPSAs	1,959,788	44,579,445
Percent of total population residing in HPSAs	15.43%	14.16%
Additional providers needed to achieve a population to practitioner ratio of 5,000 to 1	388	8,692

Figure 9.19 Designated Dental Health Professional Shortage Areas, Pennsylvania, 2012¹³



According to license renewal survey data, the number of dental care providers who provided direct patient care in Pennsylvania and practiced in rural counties decreased from 22 percent in 2003 to 19 percent in 2011. Rural counties had only about 35 dentists per 100,000 population, and urban counties had 55 per 100,000 population.¹⁴

Table 9.13 General Dentists Providing Direct Patient Care, Pennsylvania, 2011¹⁵

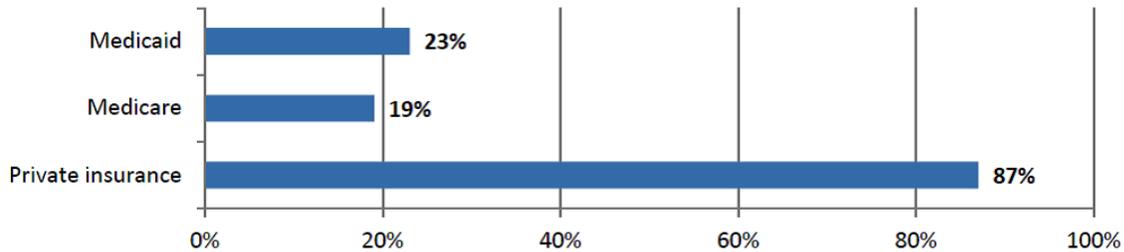
Practice Setting	Percent (%)
Rural counties	19%
Urban counties	81%

Note: Rural counties identified using Center for Rural Pennsylvania’s definition and 2010 U.S. Census data.

Persons with Medicaid

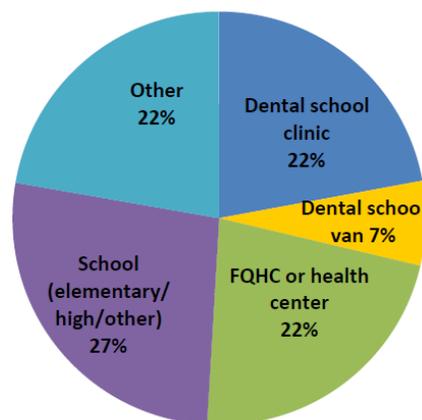
Acceptance of Medicaid by dentist respondents who provided direct patient care in Pennsylvania increased between 2007 and 2011, from 19 percent to 23 percent. Figure 9.20 compares acceptance of private insurance, Medicaid and Medicare by dentists providing direct patient care in the state.

Figure 9.20 Dental Coverage Accepted by General Dentists Providing Direct Patient Care, Pennsylvania, 2011¹⁶



In 2011, eight percent of dental hygienists who responded (591) said they provided dental care to uninsured or underinsured persons in Pennsylvania at a place other than their primary job. Figure 9.21 shows some of these alternative locations of dental hygienist services. Over half (53 percent) reported providing this care as unpaid volunteer work.

Figure 9.21 Locations Where Dental Hygienists Provided Care to Uninsured or Uninsured Residents (Not Including Primary Job)¹⁷



Fluoridation

According to the Department of Health, more Pennsylvania children are affected by dental decay than asthma, with tooth decay affecting 48 percent of children by the age of eight. By age 15, fully half of all children are affected by tooth decay. Low income increases dental health risks; in low income households, 33 percent of children have untreated tooth decay, compared with about ten percent in higher-income households.¹⁸

Poor dental health poses high risks for Pennsylvania adults as well. Oral cancer was diagnosed in 1,729 persons in 2010 and caused 360 deaths.¹⁹

Although about 85 percent of Pennsylvania residents get their water from community water systems,¹⁰ the Centers for Disease Control and Prevention (CDC) reports that only 54.6 percent receive fluoridated drinking water, earning the state a rank of 41 out of 50 states.²⁰ Over the past decades, more than 3,000 studies and reports about drinking water fluoridation provide evidence of the safety and effectiveness of this approach to reducing tooth decay in children and

adults. For most cities, estimates suggest that every dollar invested in water fluoridation saves \$38 in dental treatment costs.²¹

State Policy Changes

Increase Care Availability—To improve access to dental services, the Pennsylvania State Board of Dentistry now regulates the Expanded Function Dental Assistant (EFDA) position. These members of the dental team have completed a specific course of training that includes clinical instruction in restorative techniques. EFDAs are permitted to place restorative materials in cavity preparations, polish teeth and restorations, and perform other dental-assistant duties under the supervision of a dentist. An EFDA may not perform the services of a dental hygienist.

Another category of dental health professional was also created in recent years: the Public Health Dental Hygiene Practitioner (PHDHP). These dental care providers can perform educational, preventive, therapeutic, intra-oral and radiologic procedures without the direct supervision of a dentist at identified practice sites, including: schools; correctional facilities; health care facilities (e.g., hospitals); personal care homes; domiciliary care facilities; older adult daily living centers; continuing care provider facilities (e.g., retirement communities); FQHCs and Look-alikes; public and private institutions under the jurisdiction of a federal, state, or local agencies; and free and reduced-fee nonprofit health clinics. PHDHPs are required to refer patients to a dentist annually. At the end of 2011, the State Board of Dentistry oversaw 401 licensed PHDHPs.²²

Medicaid Policy Changes—Benefit changes for fee-for-service adult Medicaid recipients age 21 and older went into effect in 2011, as part of a cost-saving strategy. The impact of the new dental policy changes has not yet been determined, but these include limits on dentures (unless a Benefit Limit Exception is granted) and elimination of coverage for crowns, periodontal services and endodontic care (unless a BLE is granted).

In 2010, Pennsylvania Medical Assistance began reimbursing enrolled physicians and certified registered nurse practitioners for the application of topical fluoride varnish for eligible children ages birth to four years.

Intervention Strategies

In Healthy People 2020, the U.S. Department of Health and Human Services identifies five strategies for oral health:

- Implementing and evaluating activities that have an impact on oral health behavior
- Promoting interventions to reduce tooth decay, such as dental sealants and fluoride use
- Evaluating and improving methods of monitoring oral diseases and conditions
- Increasing the capacity of state dental health programs to provide preventive oral health services
- Increasing the number of community health centers with an oral health component

EPIC- Healthy Teeth, Healthy Children (HTHC): A Pennsylvania Medical/Dental Partnership—The EPIC (Educating Practices/Physicians in their Communities) Healthy Teeth, Healthy Children (HTHC) program recognizes that children are at risk for the development of early childhood caries, the most common and preventable childhood disease. HTHC provides oral health education to primary care providers to improve the oral healthcare delivery system, increase access to dental care for young children and adolescents and improve oral health literacy for families. HTHC is funded by the DentaQuest Foundation as part of the Oral Health 2014 Initiative.

Community Dental Health Coordinator (CDHC)—To help expand access to quality dental care, the American Dental Association (ADA) has developed a Community Dental Health Coordinator (CDHC) program. CDHCs are allied dental personnel with skills focused on education and prevention. The CDHC works in underserved communities where residents have no or limited access to dental care; they provide limited clinical services and help connect patients to dentists who will provide treatment. CDHC candidates are drawn from the communities they will serve and understand the barriers that prevent access to oral health services. CHDCs are intended to be employed by Federally Qualified Health Clinics, the Indian Health Service and tribal clinics, state or county public health clinics, or private practitioners serving dentally-underserved areas. In Pennsylvania, Temple University is overseeing a pilot program to train students to work as CDHCs in urban areas. The program is one of several Community Dental Health Coordinator pilots being supported by the ADA.

Strengthening the Oral Health Safety Net initiative, DentaQuest Foundation—The Pennsylvania Association has received a second year grant from the DentaQuest Foundation to fund its Strengthening the Oral Health Safety Net initiative. Safety net providers improve health and oral health by offering comprehensive primary and preventive services regardless of an individual’s income or insurance status. A strong safety net system is vital to meet current and future demand for oral health prevention, education and treatment for underinsured and underserved children and adults. The Strengthening the Oral Health Safety Net initiative provides resources, training and technical assistance to support and enhance the oral health infrastructure in underserved communities.

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Behavioral Health Care

Access to mental health and addiction services has always been a challenge for children, adolescents and adults. In 2008, a national survey by the American Psychological Association (APA) revealed that 25 percent of Americans did not have adequate access to mental health services, and an additional 44 percent either did not have mental health coverage or were not sure if they had access to mental health care.¹ An estimated 60 percent of adolescents in need of mental health care do not receive any services.² The situation is even worse for people who have both psychological and substance abuse disorders. A 2006 survey by the United States Substance Abuse and Mental Health Services Administration (SAMHSA) found that almost half of adults in this population go without treatment.³

As with physical illness, mental illness and substance abuse problems span a broad range of conditions from self-limiting adjustment reactions to lifelong alcoholism or bipolar illness. The cost of treating these conditions and the effectiveness of these treatments also varies widely. Historically, access to mental illness and substance abuse problems has been extremely limited, and those in greatest need of these services have the least access. Further, the stigma of these conditions strongly inhibits education and dissemination of information that might begin to address some of these difficulties.

National and State Goals

Healthy People 2020

The U.S. Department of Health and Human Services set Healthy People 2020⁴ goals to improve mental health through prevention and ensure access to appropriate, quality mental health services.

For children with mental health problems, Healthy People 2020 includes an objective of increasing the proportion of those who receive treatment from a 2008 baseline of 68.9 percent to 75.8 percent.

For adults aged 18 years and older who have serious mental illness (SMI), the Healthy People 2020 objective is to increase the proportion who receive treatment from a 2008 baseline of 58.7 percent to 64.6 percent.

Pennsylvania

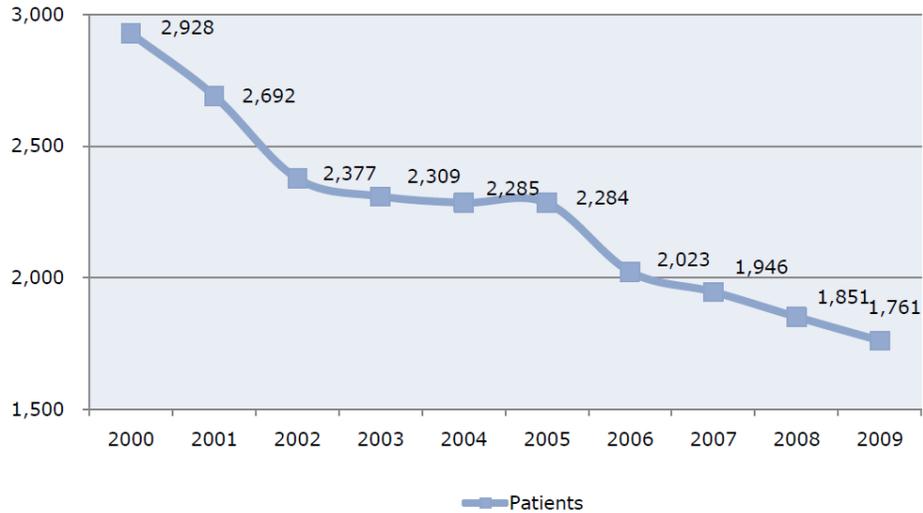
In Pennsylvania Department of Public Welfare's (DPW) Office of Mental Health and Substance Abuse Services (OMHSAS) has identified the following priorities⁵:

- Transform the children's behavioral health system to one that is family-driven and youth-guided.
- Implement services and policies to support recovery and resiliency in the adult behavioral health system.
- Ensure that behavioral health services and supports recognize and accommodate the unique needs of older adults.

For adults ages 18 to 64 in Pennsylvania, OMHSAS reports that the percent of adults enrolled in HealthChoices, the state's mandatory Medicaid managed care program, who received mental health services increased from 25.0 percent in 2007 to 26.0 in 2008. At the same time, adults receiving drug and alcohol services remained unchanged at 7.0 percent of eligible members. Also, adults with both serious mental illness and a co-occurring substance disorder who received services remained constant at 2.0 percent of eligible members between 2004 and 2007, below the national estimated need of 3.1 percent.

Use of mental health services by black adults increased from 18 percent of eligible members in 2004 to 22 percent in 2008. Over the same period, use of drug and alcohol services by black adults increased from 7 percent of eligible members to 8 percent in 2008.

Figure 9.22 State Hospital Mental Health Patients, Pennsylvania, 2000 to 2009⁶

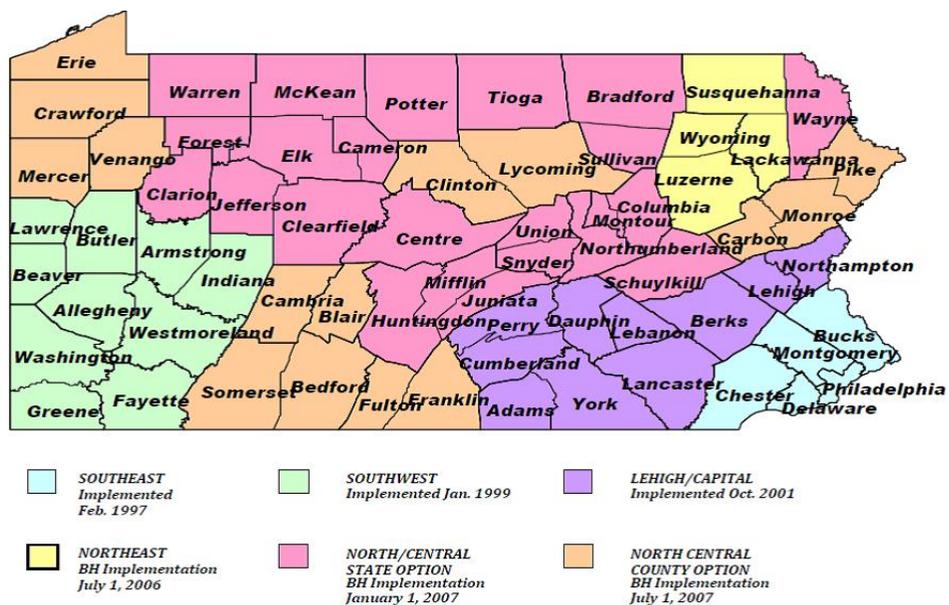


Availability of Care

DPW first implemented the HealthChoices Behavioral Health (HC-BH) program in southeast Pennsylvania in 1997 to ensure greater access to services and improve quality while managing costs. Ten years later, OMHSAS completed the statewide implementation of Medicaid behavioral health managed care in all 67 counties.

The HC-BH program functions in partnership with county government, which is legally responsible for providing and managing mental health services under the Mental Health Act of 1966. County government is given the “right of first opportunity” to bid on the HC-BH program to manage risk-based contracts. Medicaid-eligible individuals enrolled in the program are automatically enrolled in the BH program in their county of residence. The HC-BH program allows flexibility to make decisions that meet the unique needs of the county and, if savings are created, the county must reinvest the money in approved programs and supports that meet the needs of the population.

Figure 9.23 HealthChoices Behavioral Health Program Zones, 2010⁷



Adolescents—Recent national studies of adolescents’ access to mental health services noted that although about 20 percent of adolescents have mental health disorders, only a small number receive treatment.⁸ Groups with the greatest need for mental health services include: lesbian, gay, bisexual and transgender adolescents; adolescents overseen by the child welfare and juvenile justice systems; and homeless adolescents.^{9,10,11}

The mental health needs of adolescents are often identified at school, where students spend much of their time. However, a severe shortage of trained providers hampers efforts to address these needs.

The best opportunity to reduce the health and economic costs associated with these disorders involves intervention before the development of a mental health disorder in adolescence offer the best opportunity to reduce health and economic costs associated with these disorders.^{12,13}

Populations

Adults—As shown in Table 9.14, sex-related variances exist in numbers of adults who self-reported poor mental health on the Behavioral Risk Factor Surveillance System (BRFSS) survey. For both the state and the nation, just under one-third of men report poor mental health. However, the percent of women who report poor mental health in Pennsylvania, 42.7 percent, is higher than the national rate of 40.3 percent.

Table 9.14 Adults Reporting Poor Mental Health by Sex, Pennsylvania, 2011¹⁴

	Pennsylvania Percent (%)	United States Percent (%)
Males	31.0%	31.1%
Females	42.7%	40.3%

Table 9.15 shows responses for poor mental health by race and ethnicity. Data show that a greater percentage of black and Hispanic adults in Pennsylvania report having poor mental health than their peers across the nation.

Table 9.15 Adults Reporting Poor Mental Health by Race and Ethnicity, Pennsylvania, 2011¹⁵

	Pennsylvania Percent (%)	United States Percent (%)
White	35.7%	35.2%
Black	43.2%	37.2%
Hispanic	45.8%	37.6%
Asian or Pacific Islander	--	29.3%
American Indian or Alaskan Native	--	43.3%
Other	--	46.2%

Unmet Needs

According to the Agency for Healthcare Research and Quality, “[b]arriers to high-quality mental health care include cost of care, lack of sufficient insurance for mental health services, social stigma, fragmented organization of services and mistrust of providers. In rural and remote areas, limited availability of skilled care providers is also a major problem. For racial and ethnic populations, these problems are compounded by the lack of culturally and linguistically competent providers.”¹⁶

Mental disorders are among the most common causes of disability, accounting for 25 percent of all years of life lost due to disability and premature mortality.¹⁷ Mental health has a major role in a person’s ability to maintain good physical health; mental illnesses such as depression and anxiety affect the ability to engage in health-promoting behaviors. In turn, physical health issues such as those related to chronic disease can have a serious impact on mental health and decrease a person’s ability to participate in treatment and recovery.

The National Institute of Mental Health reports an estimated 13 million American adults (approximately 1 in 17) have a seriously debilitating mental illness.^{18,19} Additionally, suicide is the eleventh leading cause of death in the United States, accounting for the deaths of approximately 30,000 Americans each year.^{20,21}

Table 9.16 Estimated Number of Persons Needing But Not Receiving Treatment by Age Group, Pennsylvania, 2010 to 2011²²

	Age Groups				
	Estimated numbers (in thousands) and percents (%)				
	12 to 17	18 to 25	26 and up	12 and up Youth & adults	18 and up Adults only
Needing but not receiving treatment for illicit drug use	38 (3.96%)	94 (6.79%)	113 (1.35%)	245 (2.3%)	207 (2.13%)
Needing but not receiving treatment for alcohol use	39 (4.01%)	209 (15.08%)	473 (5.68%)	721 (6.75%)	682 (7.02%)

Table 9.16 provides some detail about youth and adults who are “needing but not receiving treatment.” This refers to respondents who are classified as needing treatment for use of illicit drugs or alcohol, but not receiving treatment for that problem at a specialty facility (i.e., inpatient or outpatient drug and alcohol rehabilitation facility, inpatient hospital, or mental health center). This information is estimated.

The Pennsylvania Department of Drug and Alcohol Program (DDAP) compiles a Case Management Resource Report (CMRR) annually, based on data reported to DDAP by Single County Authorities (SCAs), providers of publicly-funded services. The report does not include data from those whose treatment services were paid by private insurance and therefore provides an incomplete picture of treatment services in Pennsylvania. Still, for fiscal year 2011-12, according to this report the:

- Number of clients waiting longer than seven days for a drug and alcohol Level of Care Assessment: 1,167
- Percent of clients waiting longer than seven days for a drug and alcohol Level of Care Assessment: 1%
- Percent of persons statewide not receiving recommended level of care: 13%
- Number of clients waiting two weeks or longer for treatment: 3,581
- Percent of clients waiting two weeks or longer for treatment: 6%

Intervention Strategies

Preventive mental health services, expansion of services, increased access to mental health care, and the integration of behavioral health and physical health all promote evidence-based patient outcomes.

Funding is essential for access and service delivery. The Pennsylvania state mental health budget decreased \$6 million (0.8 percent) between fiscal year (FY) 2009 and FY 2012. However, between FY 2011 and FY 2012 there was an increase of \$21.8 million (3.1 percent).²³

Prevent Suicide— Suicide claims the lives of over 1,300 Pennsylvanians each year, an average of 3.5 lives each day.²⁴ The Office of Mental Health and Substance Abuse Services (OMHSAS) Advisory Committee prioritized suicide prevention as one of its major goals. Pennsylvania has both an Adult/Older Adult Suicide Prevention Coalition and a Pennsylvania Youth Suicide Prevention Initiative. The Pennsylvania Youth Suicide Prevention Initiative has its own website that provides resources for youth and young adults, family members, survivors and professionals as well as information on the efforts of county suicide prevention task forces and other community organizations and links people to resources within their local communities. OMHSAS has developed resources and factsheets related to adult suicide prevention, some specific to veterans, older adults and the role of unemployment and finances.

Pennsylvania is a recipient of a Garrett Lee Smith Youth Suicide Prevention in Primary Care Grant funded by the Substance Abuse and Mental Health Services Administration. The goal of this project is to increase identification of youth

(ages 14 to 24 years) at risk for suicide and to improve their access to mental health services through implementation of an early identification system within primary care medical settings.

Starting in 2008, the project targeted three Pennsylvania counties with suicide rates well above the national and state averages (i.e., Lackawanna, Luzerne, Schuylkill). With the renewal grant in 2011, the project expanded to include several additional Pennsylvania counties: Allegheny, Berks, Bucks, Chester, Delaware, Monroe, Montgomery, Philadelphia and Westmoreland. The project targets five goals that are key to successful prevention efforts:

- Provide training to primary care practitioners on suicide risk assessment and triage
- Enhance behavioral health screening in primary care practices by offering a free, web-based screening tool
- Provide training to mental health professionals on evidenced-based treatments for suicidal youth
- Increase integration of medical and mental health services
- Create and support local suicide prevention task forces that support this and other prevention efforts

Improve Geriatric Behavioral Health Care—New Hope Behavioral Health Unit at Corry Memorial Hospital, a critical access hospital, is an inpatient treatment center for geriatric patients who are a danger to themselves or others. All area hospitals contract with a single group of behavioral health professionals through Deerfield Behavioral Health, which provides psychiatrists who treat patients in the Behavioral Health Unit as well as social workers who conduct free, in-home behavioral health assessments for community residents. The Behavioral Health Unit has a 50 to 75 mile service radius covering the rural, tri-state area of northwestern Pennsylvania, Chautauqua County in southwestern New York and Ashtabula County in northeastern Ohio. The New Hope Behavioral Health Unit is the only behavioral health unit in the state and one of a few behavioral health units in the country. The Behavioral Health Unit sees their impact on availability to rural residents as the most important service provided.

Expand Services—The 2006 National Alliance on Mental Health (NAMI) comprehensive state-by-state analysis of mental health care systems rated Pennsylvania with a D grade. In 2009 Pennsylvania received a C, which represents progress, although not a standard of excellence. Strengths included: national leader in reducing use of seclusion and restraints; consumer and family satisfaction teams in the counties; and implementation of assertive community treatment (ACT), integrated dual diagnosis treatment (IDDT) and other evidence-based practices. Identified needs in the report were an adequate mix of hospital and community services, expansion of mental health courts and jail diversion programs statewide, and statewide police crisis intervention teams.²⁵

The 2008 Mental Health Parity and Addiction Equity Act (MHPAEA) sought to improve access to mental health and substance use services. Insurers are required to make formulation of benefits, utilization management and out-of-pocket payments equivalent between behavioral health services and other medical services. However, it is important to note that MHPAEA does not mandate that a plan provide mental health/substance use disorder benefits. Rather, if a plan provides medical/surgical and mental health/substance use disorder benefits, it must comply with the MHPAEA's parity provisions. Also, MHPAEA does not apply to issuers who sell health insurance policies to employers with 50 or fewer employees or who sell health insurance policies to individuals.

Pennsylvania has joined the national movement to enhance trauma-informed care and services within residential facilities. The goal is to provide best practices, high quality programming, technical assistance and resources to assist residential facilities in achieving the ultimate goal of eliminating the need for the use of coercive techniques in residential facilities.

Focus on Recovery—The Community Support Program (CSP) provides consumers, family members and professionals a forum to help shape the continued transformation of mental health services in Pennsylvania into a recovery-oriented system. The CSP has four regional committees which support the development of local committees and coalitions. All committees are comprised of mental health consumers, family members and professionals. Both the regional and local CSP committees provide a community-based avenue for education, information-sharing and for collective input on major successes and concerns regarding community mental health services. Concerns and recommendations are then shared with the OMHSAS Adult Advisory Committee.

The public children's behavioral health system in Pennsylvania is based on the principles and framework developed through the Child and Adolescent Service System Program (CASSP). The principles are child-centered, family-focused, community-based, multi-system, culturally competent and least restrictive/least intrusive.

The Special Pharmacy Benefits Program for Mental Health provides payment for certain atypical antipsychotic medications, in any form as prescribed, for eligible participants with behavioral health needs.

The Positive Practice Resource Team is a joint initiative between OMHSAS and the Pennsylvania Office of Developmental Programs (ODP) to serve those individuals with a developmental disability who are demonstrating at-risk behavioral challenges and who the support team determines may need enhanced levels of support not readily known or available to them.

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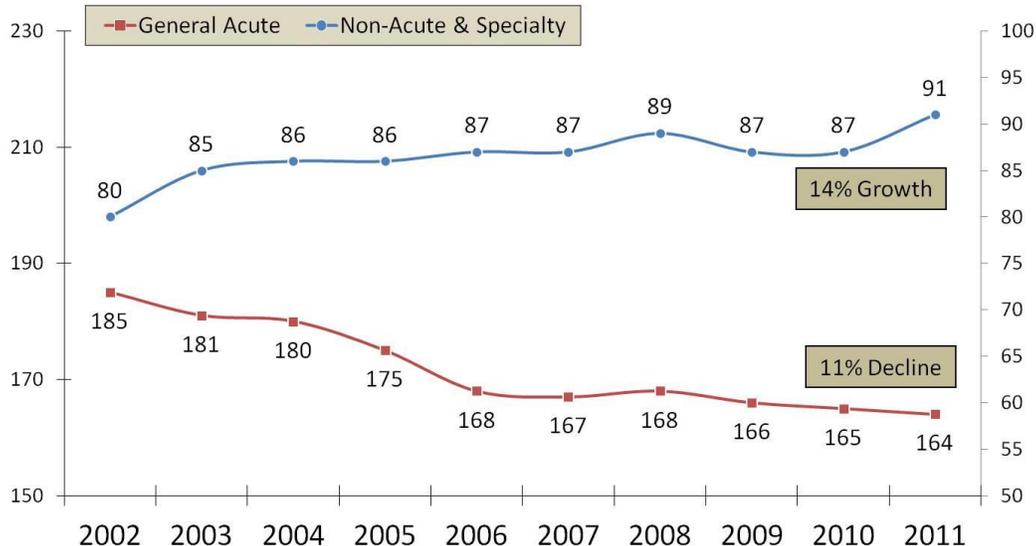
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Hospitals

Pennsylvania’s hospitals and health systems ensure that health care services are available 24 hours a day all year long. There were 255 hospitals licensed by the Pennsylvania Department of Health in 2011.¹ During the 2010-2011 fiscal year, hospitals across the state admitted more than 1.6 million persons, treated nearly 39 million patients in outpatient settings, evaluated about 6 million people in the emergency department and delivered more than 124,000 babies.^{2,3}

Figure 9.24 Licensed Hospitals, Pennsylvania, 2002 to 2011^{4,5}



General Acute Care Hospitals

Due to changes in the health care delivery system, the number of licensed general acute care hospitals has declined. As shown in Figure 9.24, the number of general acute facilities has decreased by 11 percent since 2002.⁶ Consequently, fewer hospitals are serving more patients and providing these services more efficiently. About 27 percent of acute care hospitals in Pennsylvania struggled with negative operating margins during fiscal year 2011, and 20 percent of them had negative total margins during that time.⁷

A growing uninsured population leads to increases in uncompensated care, totaling nearly \$1 billion in fiscal year 2011, an increase of 46 percent since 2007.^{8,9}

Table 9.17 Statistical Summary of General Acute Care Hospitals, Pennsylvania, 2013^{10,11,12}

Pennsylvania Hospitals	2002	2011	10-Year Change
Pennsylvania population ^a	12,331,031	12,742,886	3.3%
General acute care hospitals	185	164	-11.4%
Licensed beds	40,745	35,671	-12.5%
Staffed beds	33,919	33,603	-0.9%
Licensed beds per 1,000 population	3.30	2.81	-14.8%
Staffed beds per 1,000 population	2.75	2.64	-4.0%
Total employees (full- and part-time)	278,055	289,598	4.2%
Births	130,538	124,402	-4.7%
Births per 1,000 population	10.6	9.8	-7.5%
Inpatient admissions	1,662,573	1,617,306	-2.7%
Inpatient days	8,440,259	8,006,327	-5.1%
Patient days per 1,000 population	684.5	629.9	-8.0%
Average length of stay	5.09	4.98	-2.2%
Occupancy rate	68.2%	65.6%	-
Hospital emergency departments	187	158	-15.5%
Emergency department visits	5,021,973	6,042,760	20.3%
Emergency department visits per 1,000 population	407.3	475.4	16.7%
Admissions from the emergency department	957,933	1,078,322	12.6%
Operating rooms	1,722	1,679	-2.5%
Inpatient surgeries	598,099	620,561	3.8%
Outpatient surgeries	1,136,370	1,041,613	-8.3%
Total surgeries	1,734,469	1,662,174	-4.2%
Percent of hospitals with negative operating margins ^b	44.0%	27.0%	-

Pennsylvania vs. United States	Pennsylvania	United States	Time Period
Hospital adjusted expenses per inpatient day ^c	\$1,906	\$1,910	2010
Nonelderly uninsured percentage ^a	12.7%	17.9%	2011
Percent of nonelderly population with employer-based health care coverage ^a	59.9%	58.3%	2011

Note: (a) United Census Bureau, (b) HAP analysis of Pennsylvania Health Care Cost Containment Council, (c) Kaiser Family Foundation

Critical Access Hospitals

The Medicare Rural Hospital Flexibility Program (Flex) administered by the Federal Office of Rural Health Policy, was created to improve rural residents' access to hospitals and other services. The program created Critical Access Hospitals (CAHs), which are limited service rural hospitals designed to provide essential services.

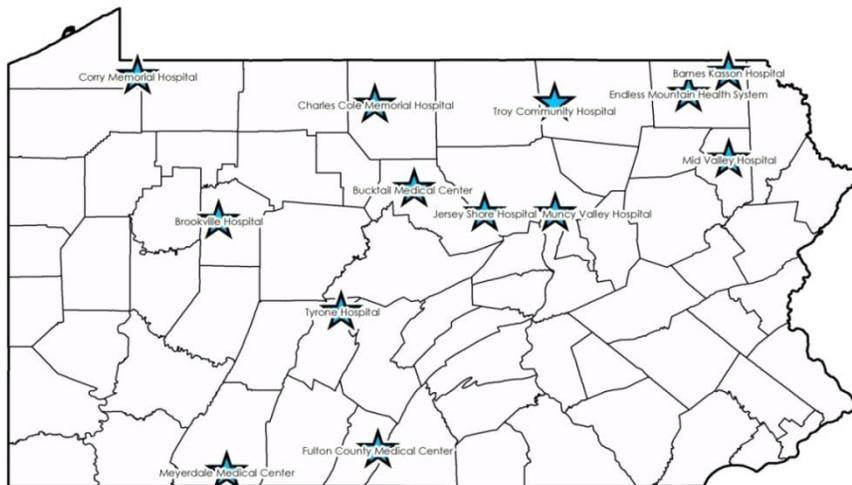
CAHs are designated by the Centers for Medicare and Medicaid Services (CMS) as meeting certain criteria: located in a rural area; provides 24-hour emergency care services; provides no more than 25 inpatient beds; has an average length of stay of 96 hours or less; located either > 35 miles from a hospital or another CAH or > 15 miles with mountainous terrain or secondary roads.¹³

Once designated as a CAH, a hospital is eligible for reimbursement of Medicare inpatient and outpatient services at 101 percent of their allowable and reasonable costs, since many lower-volume hospitals need an enhanced payment structure to remain financially viable.¹⁴

According to the Flex Monitoring Team, 1,328 CAHs are designated nationally (as of March 31, 2013). Of those, Pennsylvania has 13 designated CAHs, as shown in Figure 9.25.

As a result of the Flex program, five of Pennsylvania's CAHs have either replaced their aging facilities or started the process to do so, within the past six years. Corry Memorial Hospital moved into a new facility in September 2012. Endless Mountains Health System (Montrose) and Troy Community Hospital both expect to move into new facilities in October 2013. Fulton County Medical Center (McConnellsburg) and Jersey Shore Hospital opened new facilities in 2007 and 2009, respectively.

Figure 9.25 Critical Access Hospitals, Pennsylvania, 2013¹⁵



Resources

National Rural Health Resource Center Technical Assistance and Service Center—<http://www.ruralcenter.org>

Department of Health, Health Care Facilities—
<http://app2.health.state.pa.us/commonpoc/content/publiccommonpoc/normalSearch.asp>

Pennsylvania Healthcare Cost Containment Council—<http://www.phc4.org/>

Agency for Research Healthcare and Quality—<http://statesnapshots.ahrq.gov/snaps11/map.jsp?menuId=2&state=PA>

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Emergency Medical Service System

Oversight for Pennsylvania's Emergency Medical Service (EMS) system is based in the Pennsylvania Department of Health's (DOH) Bureau of Emergency Medical Services (BEMS). The EMS system is the bridge between public safety and Pennsylvania's healthcare system; it includes first responders, emergency vehicles, emergency departments, rescue services, and receiving facilities specializing in trauma, burns, spinal cord injuries, pediatrics, stroke, cardiac disease and rehabilitation. All work together to ensure the provision of timely, quality care.

In 1999, the Bureau of EMS was developed at the DOH. The focus was on having EMS participate as a member of the public health system and disaster preparedness became a major priority of the EMS office. Following the 9/11 attack, the federal government-funded Public Health Improvement Act provided funding to address shortfalls identified in the public health system. In addition to activities supported by the EMS office, the commonwealth created the Bureau of Public Health Preparedness (BPHP).

The BEMS developed the concept of creating strike teams that could be used in the event of disasters occurring within Pennsylvania. The first use of strike teams was sending resources to New Orleans following Hurricane Katrina. This program has been used successfully in Pennsylvania to respond to flooding that affected Pennsylvania, New York, New Jersey and all of New England. Working with the Bureau of Public Health Preparedness, regional EMS councils, EMS Agencies and the Pennsylvania Emergency Management Agency (PEMA), BEMS has built a system capable of responding to all hazard incidents.

The DOH is supported by the Pennsylvania Emergency Health Services Council (PEHSC), which serves as an official advisory body on matters related to the provision of emergency medical services. In providing advice to the Department, PEHSC draws upon the expertise of its diverse membership representing hospitals and healthcare systems, physicians and nurses, ambulance services, fire/rescue services, healthcare insurers and other related statewide organizations.

Operations

Pennsylvania's EMS resources include 660 basic life support ambulance services, 400 advanced life-support ambulances, 76 Helicopter Emergency Medical Services and 600 quick response services. Staffing capability for Pennsylvania includes: 500 first responders, 40,000 EMTs, 10,000 paramedics, 2,000 pre-hospital registered nurses, 300 pre-hospital physicians and 2,500 medical command physicians. In 2012, Pennsylvania EMS ambulances responded to more than 2 million patients.

Pennsylvania's poison control system has two accredited poison control centers. The Pittsburgh Poison Center is based at the University of Pittsburgh Medical Center, providing services to 41 percent of Pennsylvania's population. The second Poison Control Center is based at Children's Hospital of Philadelphia, serving 59 percent of Pennsylvania's population and the State of Delaware.

Access to Pennsylvania's EMS system is provided through a 9-1-1 telephone system based in 65 counties. Two 9-1-1 centers cover two counties and are linked using a public safety communications system. Pennsylvania has developed statewide basic and advanced EMS protocols and guidelines. These protocols are monitored by regional EMS council medical directors and the commonwealth EMS Medical Director and are updated every two years.

National Goals

The U.S. Department of Health and Human Services includes trauma system goals with a national target measureable in Pennsylvania:

- Increase the proportion of the population with access to trauma care to 91.4 percent.
- Increase the proportion of the land mass with access to trauma care to 31.6 percent.

As explained below, 99 percent of Pennsylvania's population has access to a trauma center within 60 minutes by air or ground transportation. The proportion of land mass with access to trauma care by air or ground is 92.9 percent. However, under conditions in which helicopters cannot be used, that percent decreases to 21.36 percent.

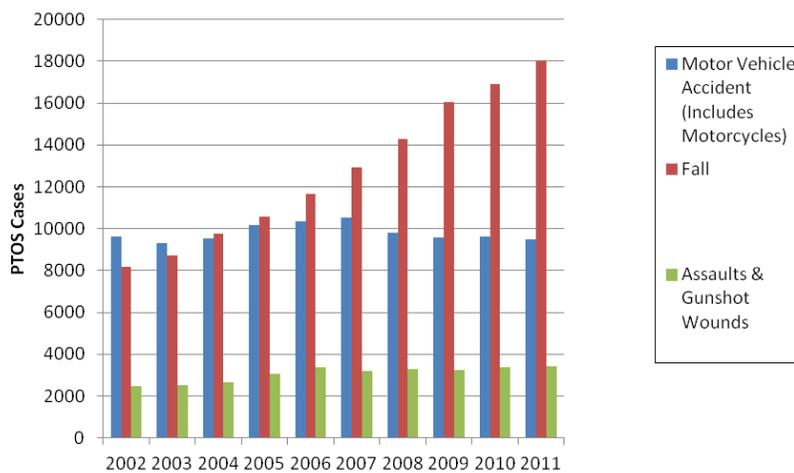
Although Pennsylvania exceeds the Healthy People 2020 target when considering both air and ground transport, the DOH goal is to achieve equal access to trauma center care for all residents.

Trauma System

In Pennsylvania, unintentional injury is the leading cause of death for individuals age 1 to 44 and the fifth leading cause of death in all age groups.¹ The leading cause of injury is falls, followed by motor vehicle collisions. The leading role of falls may be in part due to Pennsylvania’s rapidly growing geriatric population. Pennsylvania ranks fifth in percentage of total population age 65 and over and third for age 85 and over. Figure 9.26 provides some detail about the leading mechanisms of injury in the state.

Pennsylvania’s trauma system is a component of the larger EMS system and involves EMS, acute care facilities, rehabilitation, injury prevention and research.

Figure 9.26 Leading Mechanisms of Injury, Pennsylvania, 2002 to 2011²



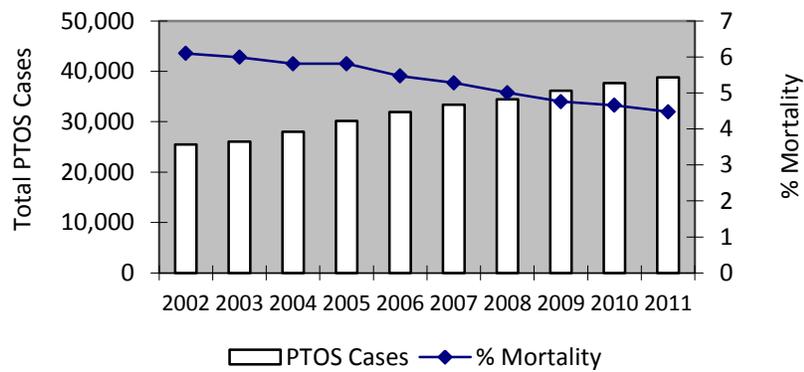
The Pennsylvania Trauma Systems Foundation (PTSF) was established as the accrediting body for trauma centers in Pennsylvania as part of the EMS Act of 1985. The system continues to be a voluntary one, in which hospitals apply to be trauma centers and are accredited based on their compliance with PTSF Standards. At a minimum, a trauma center must meet requirements set by the American College of Surgeons Committee on Trauma. Board members are nominated by state organizations as mandated in the EMS Act. These organizations include the five organizations that were founding members in addition to the Pennsylvania Trauma Nurse Advisory Council and the majority and minority chairs of the Senate Health and Welfare Committee and the House Health Committee.

There are currently 30 trauma centers in Pennsylvania, encompassing five types of accreditation: Adult Levels I, II and III and Pediatric Levels I and II; all but three of the 30 trauma centers are located in urban counties. In 2011, a total of 38,800 trauma patients were cared for in PA trauma centers. Mortality in Pennsylvania trauma centers has decreased from six percent to four percent over a ten-year period, even though admissions and severity of injury has increased over the same period.³ Mortality combined with complications decreased by 30 percent in the same ten-year period.⁴ Furthermore, recent data has shown mortality in a county drops as a result of trauma center accreditation pursuit even if accreditation is not achieved.

Table 9.18 Defining Characteristics of Pennsylvania Trauma Centers

Level I	These hospitals provide multidisciplinary treatment and specialized resources for trauma patients. They are required to conduct trauma research, have a surgical residency program and handle an annual volume of 600 major trauma patients per year. <i>Can be categorized as either Adult Trauma Centers or Pediatric Trauma Centers.</i>
Level II	These hospitals provide similar experienced medical services and resources, but they do not have research and residency components. The volume requirement is 350 major trauma patients per year. <i>Can be categorized as either Adult Trauma Centers or Pediatric Trauma Centers.</i>
Level III	Smaller community hospitals that have services to care for patients with moderate injuries and the ability to stabilize severe trauma patients in preparation for transport to a higher level trauma center. These do not require neurosurgical resources. The Trauma Program Medical Director must be a physician who is a surgeon. No volume requirement.
Level IV	These trauma centers must be able to provide initial care and stabilization of traumatic injury while arranging transfer to a higher level of trauma care. They may also admit trauma patients with minor injuries. These centers do not need surgeon support; the Trauma Program Medical Director must be a physician but does not need to be a surgeon. No volume requirement.

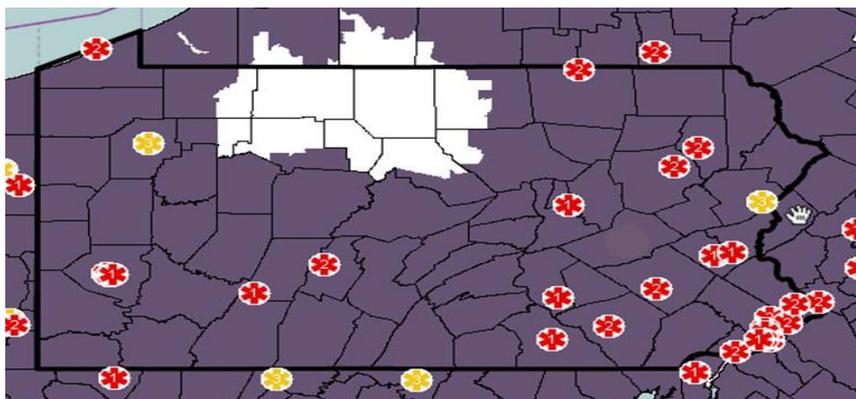
Figure 9.27 Trauma Patient Cases and Mortality, Pennsylvania, 2002 to 2011⁵



In 2007, a trauma system self-assessment was conducted to identify strengths and gaps in the statewide network. Strengths included: a robust, high-quality statewide trauma patient data collection system; a mature standardized performance improvement process; and the development of an extensive network of Levels I and II trauma centers, recognized nationally for their research.

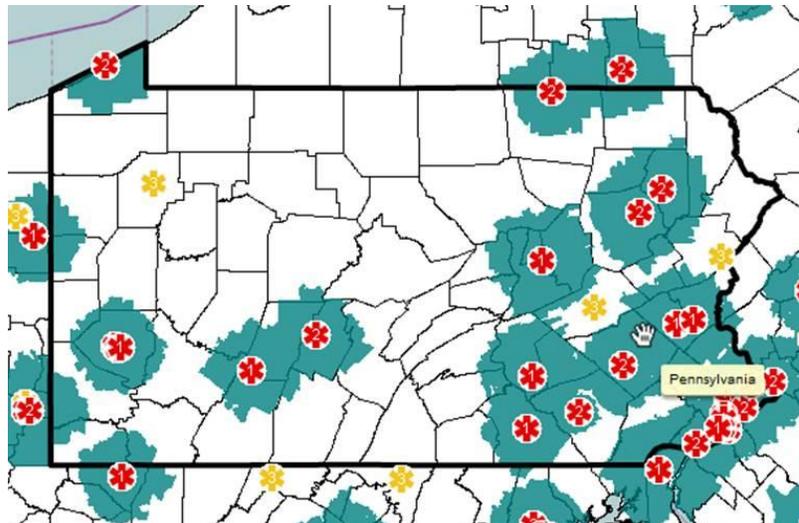
Gaps included: lack of trauma center access in rural regions, within one hour by air and ground. Figure 9.28 shows areas without one-hour service by air. Note that when helicopters are unable to fly due to weather or other conditions, access declines even further, to just 68 percent of the state.

Figure 9.28 Access to Trauma Centers Within 60 Minutes by Air Transport, 2013⁶



Note: White areas show lack of access.

Figure 9.29 Access to Trauma Centers Within 60 Minutes by Ground Transport, 2013⁷



Note: White areas show lack of access.

Burn Center Care

Pennsylvania is fortunate to have six burn centers within its borders, five as part of accredited Level I trauma centers and five verified by the American Burn Association. Verification of burn centers is a joint program of the American Burn Association and the American College of Surgeons that is designed to verify resources are available on site to provide optimal care to burn patients from the time of injury through rehabilitation.

In 2011, Pennsylvania burn centers treated 1,420 burn patients, a figure that doubled over a 10-year period.⁸ Burn mortality decreased by 50 percent during the same period, from 6 percent in 2001 to 3 percent in 2010.⁹ This is most likely due to clinical innovations in the area of burn care and the aggressive outreach that burn centers are doing with community hospitals. An example of such innovation is the promotion of telemedicine between burn centers and community hospitals. Hospitals transmit photos of burn wounds to a Burn Center, and hospital teams at both locations consult. Hospitals report that this innovation decreases time to transport and promotes timely, quality care. Additionally, transport can sometimes be avoided if burns are limited in scope and easily treated at the community hospital with recommendations by the burn center medical staff.

Rural Disparities

Pennsylvania has 48 rural counties and 19 urban counties. According to 2010 U.S. Census data, about 3.5 million residents, or 27 percent of the state's 12.7 residents, lived in rural counties.¹⁰ The challenges posed for EMT services in Pennsylvania are similar to those faced in other rural areas. Nationally, death rates from unintentional injuries and suicides are highest in the most rural counties.¹¹ In 2004, the state passed legislation that mandated that PTSF create standards of accreditation for Level III trauma centers, which were meant to increase access to trauma center care in rural underserved areas of Pennsylvania and required surgeons to provide a leadership role and respond to the needs of moderately or severely injured trauma patients within a 30 minute time frame.

The Level III trauma center effort has had minimal effect; currently, the state has only one such center. In 2011, Pennsylvania Trauma Systems Foundation (PTSF) distributed a questionnaire to gain insight about the reluctance of hospitals to pursue or maintain Level III accreditation. Results of the study showed that one of the chief reasons hospitals had not sought out the credential was difficulty in garnering support from general surgeons in rural communities, where they were in shorter supply than urban areas. According to 2010 data from the DOH, about 18 percent of Pennsylvania's surgeons are located in rural areas, even though 27 percent of the population resides in these areas.¹² This urban versus rural workforce disparity is even greater with respect to neurosurgeons. Of the neurosurgeons practicing in Pennsylvania in 2010, only 9 percent delivered

care in rural counties. A 2012 study found that an increased population density of neurosurgeons was associated with decreased risk of death from motor vehicle crashes nationally.¹³

Even though rural Level III development in Pennsylvania has been a challenge, an analysis of hospitals pursuing Level III accreditation has been encouraging. Most notably, injury-related mortality rates plummeted between 2.5 and 3.5 percent in three counties where accreditation was pursued, even if a hospital did not achieve accreditation. These outcomes can be attributed to increased education of staff, implementation of standardized trauma management guidelines and aggressive trauma performance improvement processes.

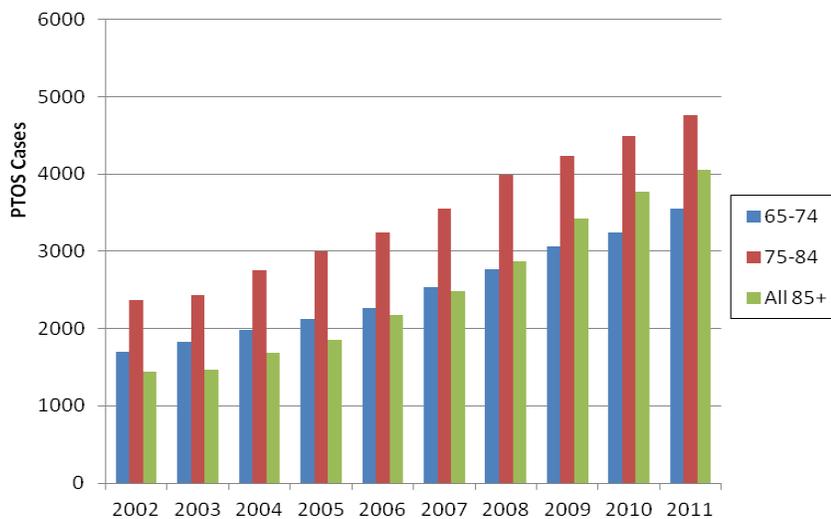
These beneficial practices are now being promulgated in hospitals pursuing Pennsylvania’s newest level of accreditation: Level IV trauma centers. After a careful analysis of trauma system development practices in other states, PTSF finalized standards of accreditation for Level IV trauma centers in 2010. These trauma centers, intended for the most rural areas of a state, will enhance care to injured patients through stabilization and expeditious transport to a higher level trauma center. Unlike Level I, II, or III trauma centers, surgeons won’t be needed at these centers.

Currently, five hospitals are pursuing Level IV accreditation; three of these are Critical Access Hospitals (CAHs). Funding through the Medicare Rural Hospital Flexibility Program Grant is enabling PTSF to waive fees for Critical Access Hospitals during their development. In addition to accreditation, education of non-trauma centers is also a statewide focus. Level I and II trauma centers are teaching the Rural Trauma Team Development Course to their receiving hospitals to enhance their care of injured patients and expedite transfer. Studies done nationally have shown that RTTDC has improved transfer times between rural hospitals and trauma centers.¹⁴

Geriatric Population

Geriatric trauma continues to escalate in Pennsylvania. In 2011, patients age 65 or older made up 31.8 percent of the total number of injured patients cared for in trauma centers. Patients age 85 or older continue to be the fastest growing trauma population in Pennsylvania.¹⁵

Figure 9.30 Geriatric Patients of Trauma Centers, Pennsylvania, 2011¹⁶



Pennsylvania’s population is aging. From 2000 to 2010, the number of residents 65 and older increased 2.1 percent, while the number of residents under age 18 decreased 4.5 percent. Mortality rates have decreased as the denominator of injured elderly increases, but the absolute number of elderly deaths continues to climb. Trauma centers in Pennsylvania will need to be prepared for the continued growth in this population. In addition, pre-hospital EMS triage for the injured geriatric patient will have to change. Current guidelines from the American College of Surgeons Committee on Trauma recommend consideration of trauma center transport for geriatric injury with low energy mechanism (i.e., falls). However, a recent study from the University of Pittsburgh involved analysis of PTSF data and Pennsylvania Healthcare Cost Containment Council

data, and the researchers found that trauma center care improves outcome in even the minimally injured elderly. The same finding is supported by several other studies.

Yet 2011 data obtained from patient care records of EMS providers reveal that only one-third of injured elderly persons in Pennsylvania were taken to trauma centers, even though the majority of those patients were within reasonable distance of an already existing trauma center. Ohio has already begun such triage changes.

These findings lead many in the field to believe that additional criteria for geriatric trauma center care are forthcoming. Using the pediatric population as an example of a special needs group, changes in education and injury prevention requirements are essential. Staffing requirements may also shift similar to pediatric trauma centers as this population grows.

Stroke Care

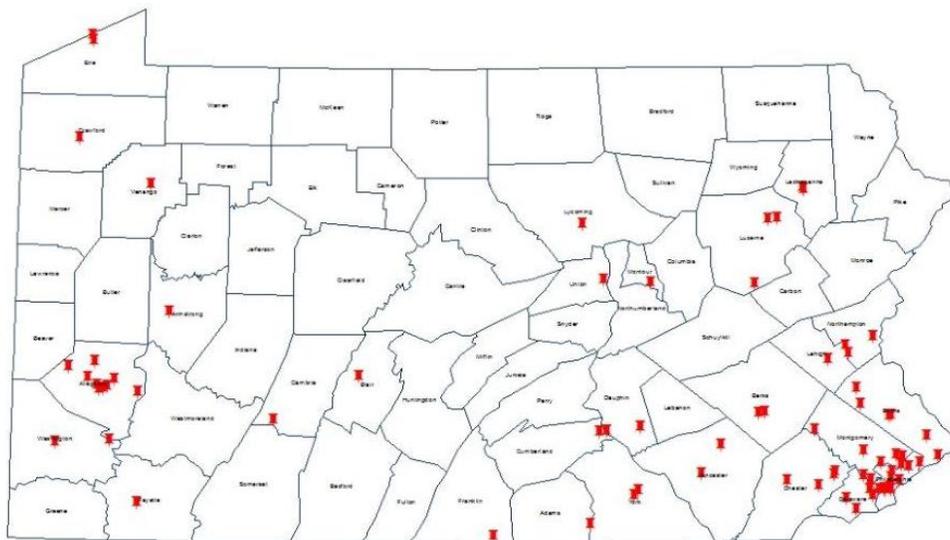
In Pennsylvania, stroke is currently the third leading cause of death and the leading cause of disability. In the United States as a whole, stroke has become the fourth leading cause of death, but continues to be the leading cause of disability.¹⁷

In July 2012, the “Primary Stroke Center Recognition Act” took effect, creating a mechanism for the identification of acute care hospitals designated as primary stroke centers. Under this Act, the Department of Health can recognize hospitals as primary stroke centers upon submission of an application that states that the hospital is certified as a primary stroke center by the Joint Commission or another nationally recognized accreditation organization.¹⁸

The Act also mandates that the Department of Health establish protocols “related to pre-hospital assessment, treatment and transport of stroke patients by licensed emergency medical service providers. The protocol shall include plans for triage and transport of acute stroke patients to the closest primary stroke center or a facility that can provide appropriate treatment if the primary stroke center is not within a specified timeframe from onset of symptoms.”¹⁸

There are currently 62 Joint Commission accredited primary stroke centers within the State of Pennsylvania and this number continues to grow.¹⁸ Eight of the 62 stroke centers are in rural counties.

Figure 9.31 Accredited Stroke Centers, Pennsylvania, 2013¹⁹



Currently, none of the 13 federally-defined Critical Access Hospitals within Pennsylvania are primary stroke accredited. It seems unlikely that the Critical Access Hospitals in rural counties will have the infrastructure to achieve Joint Commission Pennsylvania State Health Assessment, 2013

accreditation as a primary stroke center; however, telemedicine (e.g., tele-neurology, tele-stroke) care will allow access to virtually any of the Critical Access Hospitals and virtually all hospitals in rural counties of the state. This would increase patient access to stroke therapy and assist in determining which patients need to be transferred for definitive treatment.

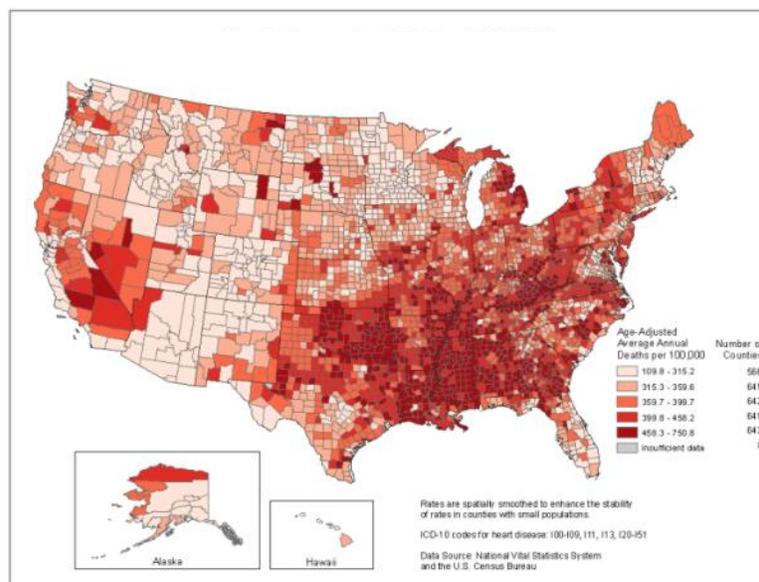
Key factors for improving access to acute stroke care²⁰ include:

- Aggressive training of pre-hospital providers with appropriate tools to recognize an acute stroke
- Education of all participating stakeholders, including hospital administrators, medical societies, government and professional organizations
- Establishment of multidisciplinary protocols, establishing acute and emergency triage protocols and standardized imaging protocols
- Stroke center certification or, in areas where this is not feasible (e.g., rural areas), networking between rural hospitals and larger facilities through telemedicine
- Legislation supporting stroke care infrastructure and resources
- Appropriate reimbursement to hospitals and providers for telemedicine services

Emergency Cardiac Care

Heart disease is the leading cause of death in the United States, for both men and women. About 600,000 people die of heart disease in the United States every year, or one in every four deaths.²¹ Coronary heart disease is the most common type of heart disease, killing more than 385,000 people annually. Every year, about 715,000 Americans have a myocardial infarction which involves a blockage in the arteries supplying the heart. Of these, 525,000 are a first event and 190,000 happen in people who have already had a myocardial infarction.²² Coronary heart disease alone costs the United States \$108.9 billion each year.²³ This total includes the cost of health care services, medications and lost productivity.

Figure 9.32 Heart Disease Death Rates by County, Adults Age ≥ 35, United States, 2007 to 2009²⁴



Mortality from heart disease is clearly a significant problem, particularly for some counties. It is also among the most preventable cause of mortality. Many of these preventable risk factors are addressed in other sections of this report. This section addresses the acute treatment and systems in place to treat coronary heart disease on a state level.

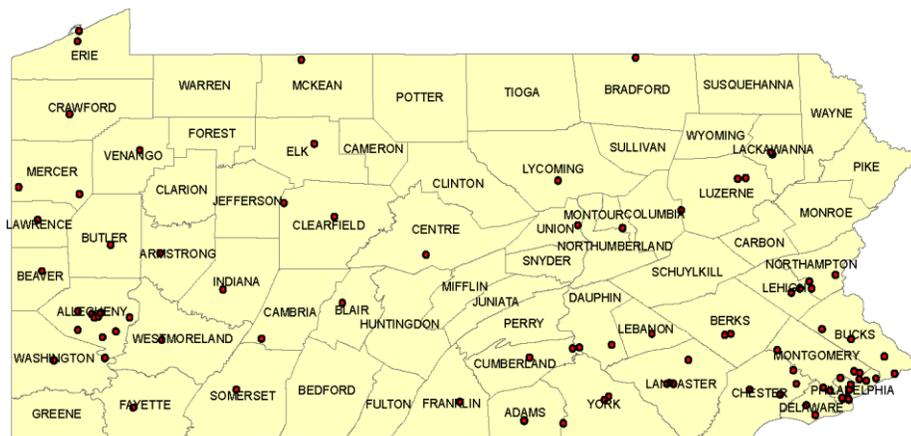
The Healthy People 2020 objectives that apply to emergency cardiac systems examine the timeliness of fibrinolytic therapy and percutaneous cardiac intervention (PCI).²⁵ These treatments treat coronary heart disease involving blockage of the arteries supplying blood to the heart.

Percutaneous Cardiac Intervention (PCI)—Healthy People 2020 sets the goal to increase the proportion of eligible patients with myocardial infarctions who receive artery-opening therapies within 90 minutes of hospital arrival.²⁵

Although Pennsylvania allows any hospital with a catheterization laboratory to perform PCI on a patient undergoing a particular kind of myocardial infarction involving the blockage of the coronary arteries, access to this type of treatment is limited by the availability of hospitals that have a catheterization lab and a physician willing to perform the procedure. In some of these facilities, physicians travel between hospital sites, which makes obtaining the exact estimate of which facilities perform primary PCI (that is, PCI in the setting of a myocardial infarction) difficult. Of the 156 acute care hospitals that are capable of doing this procedure, 97 of them report having a catheterization lab.²⁶ There is not an even distribution of catheterization labs throughout the state; the middle of the state having fewer catheterization labs and, thus, less access to this procedure.

Current guidelines recommend that PCI should be performed within 90 minutes or less from the moment the patient presents to the emergency department or has contact with paramedics.²⁷ The CMS Hospital Compare database estimates that 93 percent of Pennsylvania hospitals that do PCI meet the goal of providing a PCI within 90 minutes. The CMS national average for all participating hospitals is 95 percent.

Figure 9.33 Adult Cardiac Catheterization Labs by County, Pennsylvania, 2011²⁸



Fibrinolytics—Any acute care hospital with the proper protocols, equipment and personnel can provide fibrinolytic therapy to a patient with an acute heart attack. Most acute care hospitals are able to provide fibrinolytic treatment. It is recommended that the delay from first patient contact with the healthcare system (typically, arrival at the emergency room or contact with paramedics) to initiation of fibrinolytic therapy be less than 30 minutes. The Healthy People 2020 objective is to increase the proportion of eligible patient who receive this treatment in a timely manner.²⁵ Unlike the measures of PCI timeliness, this measure is most likely underreported in the CMS Hospital Compare database. The database reports that only 44 percent of Pennsylvania hospitals meet this requirement, compared to a national average of 60 percent.

STEMI Systems and Community Initiatives—STEMI (which stands for ST Elevation Myocardial Infarction) is a term used to describe a particular type of heart attack. It is recognized by a special finding on an EKG (electrocardiogram), a test that measures electrical impulses in the heart. When heart muscle is injured, it transmits electrical distress signals and this is shown on an EKG in the form of elevation of an “ST” wave. The heart muscle is usually injured by a blockage of a blood vessel that supplies the heart. STEMI are one of the particular kinds of heart attacks that often best can be treated with PCI.²⁹

A STEMI Center is a voluntary center that registers with the American Heart Association (AHA) and has approved protocols to treat this kind of a heart attack. Ideally it is connected to EMS services so that the patient can be triaged to a hospital that can most effectively treat this kind of heart attack.

A majority of the adult care hospitals in Pennsylvania are registered as STEMI Centers with the American Heart Association. Because catheterization labs are not evenly distributed in the state, the ability to receive timely PCI, one of the optimal treatments for a STEMI, may also be affected. While the AHA has guidelines for a STEMI referral or receiving center, it is a completely voluntary program and there are no regulations in Pennsylvania regarding whether those recommendations have to be met. Approximately 20 Pennsylvania hospitals are accredited as a Chest Pain Center by the Society of Chest Pain Centers. Chest Pain Centers that do PCI and a few catheterization laboratories are accredited by ACE (Accreditation for Cardiovascular Excellence). Additionally, there are three demonstration projects in the state to accelerate the process of creating, running and sustaining an effective and efficient STEMI System of Care. These are located in Pittsburgh, Philadelphia and the Wilkes Barre-Scranton area.

Cardiac distress can occur anytime, anywhere and so community efforts like “Lend a Hand, Save a Life CPR Challenge” strive to train non-medical personnel how to respond in such an emergency. This collaborative project of EMS, American Heart Association and the Pennsylvania Rescue Project aims to train 250,000 in bystander hands-only CPR from January to May 2013. The ultimate goal is to eventually teach a million people hands-only CPR and increase survival of those who have a sudden cardiac event outside of a healthcare facility by 50 percent. Immediate bystander CPR can double or triple survival rates in those cases.³⁰

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Long Term Care

Pennsylvania has the fourth-largest elderly state population in the United States, with almost 2.7 million residents age 60 and older.¹ The most significant growth for the senior population has been in the 85 and older age group, which now includes more than 300,000 residents.² By the year 2030 Pennsylvania's age 60 and older population is likely to exceed 3.6 million persons.³ These demographics reflect a very large and diverse mature-adult population, which continues to grow in numbers as well as clinical complexity. Demographic, geographic, health and socioeconomic factors affecting the long term care system, combined with recent fiscal reform efforts at the state level, have strained the long term care system at a time when demands for services are ballooning dramatically. Some 675,000 of Pennsylvania's residents age 60 and older have been diagnosed with a disability that necessitates long term care.⁴ Countless others are affected by behavioral health and chronic physical diseases. Recent studies have shown a huge increase in from the incidence of Alzheimer's disease among seniors, with the count now at an estimated 280,000.⁵

Pennsylvania's 52 Area Agencies on Aging (AAAs) serve as gatekeepers for long term living services and supports, coordinating the assessment process to determine Nursing Facility Clinically Eligible (NFCE) for long term care services. Each assessment focuses on the functional ability of the particular resident and the determination of need for skilled and supportive services. The state's long term care system aims to provide care in the least restrictive setting possible, and options include placement in a Domiciliary Care Home (a family-like, small home environment), a personal care home, or a nursing home. For older adults who meet the clinical and financial criteria for nursing home care yet choose to remain in their own home, a nursing home diversion program may be appropriate. Known as the Aging Waiver, it enables residents to obtain a variety of services intended to keep them in a community setting. Over the last several years, the waiver program has grown, thanks to Pennsylvania's commitment to the program and the interest of the majority of senior residents to remain in their own home as long as possible. Currently, about 28,000 consumers age 60 and older participate in the Aging Waiver.⁶ An alternative program is the LIFE/PACE program, an extensive, community-based managed care model of medical and supportive care currently available in 30 of the state's counties.

For Pennsylvania, the growth of the long term care system has been aided by the availability of resources through the state lottery fund. Pennsylvania is the only state in the nation with a lottery dedicated to supporting its older citizens, and this funding source has been an essential ingredient for the expansion of long term care options. Since its inception, the lottery fund has provided \$22.6 billion for long term care, in-home services, transportation, property tax and rent assistance, prescription drug benefits and transportation.⁷ During State fiscal year 2011-2012, more than 930,000 older Pennsylvanians received help through these lottery-funded programs.⁸ This lottery source has also supported costs for the Pennsylvania Medicaid program. During the last five years, some \$1 billion in funds has transferred to this program, with a record \$309 million shifted to cover the state's Medicaid long term care expenses in State fiscal year 2012-2013.⁹

The challenge will be finding a way to adequately finance this shift at a time when the integration of "baby boomers" into the service system will place more accelerated demands on care in the home setting.

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Hospice Care

Hospices provide comfort and support for individuals who are facing a life-limiting illness that no longer responds to cure-oriented treatment. Hospice care advocates neither the prolonging of life nor the hastening of death. Staff and volunteers offer specialized knowledge of end-of-life care, especially in the area of pain management and symptom control. The goal of every hospice admission is to improve the quality of a patient's last months of life by offering comfort, respect and dignity.

Hospice care extends beyond the patient to support the loved one's family. Unlike traditional medical care, hospice care is guided by a multidisciplinary team headed by a physician who views the patient and the family as the recipient of hospice care. Also, rather than focus strictly on the physical symptoms of an illness, hospice includes the emotional, spiritual, psychosocial and bereavement needs of both the patient and family.

Hospice team members include registered nurses, licensed practical nurses, social workers, volunteers, home health aides, counselors, chaplains, physicians, bereavement counselors, music and massage therapists, and others. These team members meet regularly to update the care plan for each patient/family, adjusting services to meet changing needs as time progresses. Services are increased or decreased depending on what best suits the needs of the patient and their loved ones. In addition to these supportive services, some hospice centers have inpatient beds and admit patients to receive care 24 hours a day, 7 days a week until they die, either on a residential basis or in an acute care capacity. However, due to the high cost of such programs, most hospices in Pennsylvania are not able to offer dedicated inpatient or residential care facilities.

Among these hospice team members, nurses and physicians focus on the physical care of the patient, providing education to the family on how to best care for their loved one, monitoring pain and symptoms and offering medications to manage them. Home health aides provide hands-on care for the patient. Social workers link the family with services that might be beneficial (e.g., transportation, meal programs, help with insurance questions). Counselors help to facilitate conversations between the person who is dying and loved ones. Chaplains provide spiritual counseling and perform funeral services. Music and massage therapists may focus on either the patient or the family. Volunteers in hospice have all completed training in end-of-life care, although this can vary widely, from a short one-session introduction to 33 hours spread out over many weeks. Medicare regulations require that a minimum amount of time be provided by volunteers each year.

In addition to the patient care services provided, community hospices often offer a variety of bereavement and counseling services to families before and after a patient's death. Some provide support groups, individual counseling, respite care, children's bereavement camps, memorial services, get-togethers and other services. Many hospices offer their services for a 12 to 14 month period following a loved one's death.

Traditional admission guidelines for hospice programs are: survival prognosis of approximately six months or less, willingness on the part of the patient/family to receive hospice care, and desire by the patient and the family to focus on palliation and quality of life as opposed to cure for the illness.

Hospice agencies that receive federal or state reimbursement are licensed by Pennsylvania, Department of Health, to provide care within the minimum health and safety standards established by federal and state regulations and rules. Reimbursement for hospice care has become "standardized" throughout the third party payer system. Medicare pays for services provided by hospice agencies that voluntarily seek and are approved for certification by the federal Centers for Medicare and Medicaid Services (CMS). CMS contracts with the Department of Health to evaluate compliance with the federal hospice regulations by periodically conducting unannounced surveys of these agencies. Medicaid also provides reimbursement for hospice programs in Pennsylvania.

Most hospice care is reimbursed on a per-diem basis but some third parties reimburse on a per-visit basis. The majority of hospice care is provided to individuals for whom Medicare is the primary insurer. Because of the limitations in third-party reimbursement, most nonprofit hospice programs raise funds to help provide care that goes beyond the reimbursement rates that are set or for individuals who have no insurance.

Hospice care is provided throughout Pennsylvania by over 100 agencies. In 2009, hospices across the state cared for 62,037 patients; the total number of deaths in Pennsylvania for that year was 100,558. In 2010, in the United States, hospice services provided care for 1,919,695 persons who died and 1,169,921 additional persons. In Pennsylvania, hospice services provided care for 61.7 percent of deaths, slightly above the national average of 60.9 percent.¹ The rate of hospice care for black residents was 52 percent.² In 2009, 48 percent of Pennsylvania’s hospice patients were in their own homes, 36 percent were in nursing homes, 14 percent were in assisted living facilities and 2 percent were in hospice inpatient facilities.³ The use of hospice care by county in Pennsylvania varies greatly, from 30 percent or less in Juniata, Elk and McKean to more than 80 percent in Blair, Bedford and Cambria. There does not appear to be a strong correlation between rural/urban and use of hospice.⁴

In 2011, 35.8 percent of patients admitted to hospice care in the United States died within seven days, making the care more acute in nature than the traditional six-month hospice guideline suggests.⁵ The median length of stay nationwide was 19 days in 2011, so half of patients died in less than three weeks.⁶ Pennsylvania’s length of stay in hospice for 2008 was 60.1 days, compared to a national average of 64 days.⁷ Nationally, hospice programs care for more women (56 percent) than men (44 percent), and 83.2 percent of hospice patients are over 65 years of age.⁸ Some programs provide special pediatric hospice care.

The majority of hospice care (60 percent) is received in a place the patient calls “home,” either their own home, an assisted living facility, or a nursing home. The remaining hospice care is provided in acute care hospitals (11 percent), hospice residences (7 percent), or hospice inpatient facilities (22 percent).⁹

Insurers recognize different reimbursement levels for hospice care. The most frequent level is called “routine home care” by Medicare; over 97 percent of hospice care provided in the United States is classified in this category. Of the remaining reimbursement levels, 2 percent is inpatient; 0.4 percent is continuous care, in which the hospice program places an individual under a period of continued hospice staffing; and 0.3 percent is called respite care, in which the patient is placed in another setting for up to five days.¹⁰

In the United States in 2011, hospice patients were diagnosed with:¹¹

Cancer	37.7%
Non-cancer diagnoses	62.3%
Heart disease	11.4%
Debility unspecified	13.9%
Dementia	12.5%
Lung disease	8.5%
Stroke or coma	4.1%
Kidney disease (ESRD)	2.7%
Liver disease	2.1%
Non-ALS motor neuron	1.6%
HIV / AIDS	0.2%
Amyotrophic Lateral Sclerosis (ALS)	0.4%

There are 5,300 hospice programs nationally. Of these, 34 percent are nonprofit, 60 percent for-profit and the remaining programs are run by government entities. Both in Pennsylvania and at a national level, the number of nonprofit hospices has decreased over the past 10 years.¹² Some states have passed CON (Certificate of Need) legislation for hospice programs, requiring a hospice entity to provide proof of need before opening another hospice program. Pennsylvania is not a CON state and has more hospice agencies than many states.

Trends in the hospice industry include increased oversight by payers, primarily due to the rise in for-profit programs and perceived “appropriateness” for hospice care if a patient does not die within the “prescribed” six-month window. The federal Office of the Inspector General has undertaken initiatives that target hospices. In addition, the federal

government contracts with Recovery Audit Contractors, which have started to examine hospice care providers and practices. Some Medicare intermediaries have also begun to require more stringent documentation of a person's continued eligibility for hospice care, resulting in the denial of more claims.

In 2013, reimbursement by Medicare for hospice care became subject to a two percent sequester cut which affects all hospice programs in the United States. During the past year, many hospice providers throughout the United States have had to lay off staff due to greater oversight of the hospice industry, and a few have declared bankruptcy. One of these was in Pennsylvania.

The future of hospice care is inextricably tied to the health care system. There are so many "unknowns" regarding how health care is being and will be restructured, that making long-term predictions is difficult.

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Health Information Technology

Health information technology (HIT) is the area of information technology involving the design, development, creation, use and maintenance of information systems for the healthcare industry. Automated and interoperable healthcare information systems are expected to lower costs, improve efficiency and reduce error, while also providing better patient care and service. The electronic health record (EHR) is the central component of the health IT infrastructure. An EHR is an individual's official, digital health record which may be shared among multiple facilities and agencies. Health information exchange (HIE) is a specific area of HIT involving the electronic movement of health-related information among unaffiliated organizations according to nationally recognized standards.

This section provides information regarding various programs occurring in Pennsylvania to support the adoption of HIT among commercial and private sector healthcare providers and related organizations in the state. More specifically, it addresses efforts to encourage adoption of EHR systems and HIE. These efforts will help keep the Pennsylvania healthcare sector competitive within the national healthcare system; more importantly, they will improve efficiency and quality, which will benefit Pennsylvania residents.

Background

The Office of the National Coordinator for Health Information Technology (ONC) is the principal federal entity tasked with coordinating nationwide efforts to implement the most advanced health technology and support the electronic exchange of health information. In February 2009, President Obama signed the American Recovery and Reinvestment Act (ARRA), which included \$19 billion in funding earmarked to stimulate HIT with additional provisions in ARRA healthcare-related allocation (e.g., Medicaid) also encouraging HIT progress. ONC administers a grant program to enable state-level health information exchange (HIE) efforts with a portion of this ARRA funding.

Pennsylvania applied for and received \$17.1 million of this funding to help enable HIE. The state must match these federal funds at a current rate of 33 percent. In July 2011, Governor Tom Corbett issued an executive order establishing the Pennsylvania eHealth Collaborative (PAeHC) with the objective to enable the use of information technology and advance health information exchange. This executive order required the Collaborative to develop and implement a market-driven strategy to leverage the federal grant to enable HIE in Pennsylvania.

A stakeholder driven process started that same month. More than 150 leaders from the healthcare community, patient advocacy groups, local and state government, academia and the legal community met to formulate recommendations to advance HIE in Pennsylvania. Both ONC and the governor's office approved the Strategic and Operational Plan (SOP) in 2012.

As part of the SOP, and as a result of the passage of the Pennsylvania eHealth Information Technology Act of July 5, 2012 (P.L. 1042, No. 121), the Pennsylvania eHealth Partnership Authority (The Authority) was established as an independent governing board¹ with three aims:

- **Communication**—Promote efficient and effective communication among multiple healthcare providers, payers and participants.
- **Facilitation**—Create efficiencies and promote accuracy in the delivery of health care.
- **Infrastructure**—Support the ability to improve community health status.

This stakeholder driven process that started in July 2011 continues today, through the continued participation of leading organizations such as: KeyHIE/Geisinger, University of Pittsburgh Medical Center, Clinical Connect, Highmark, Independence Blue Cross, Amerihealth Mercy, St. Luke, Vantage HIE, Penn State Hershey Medical Center, Pennsylvania Pharmacists Association, Altoona Regional Health System, Susquehanna Community Health & Dental Center, Hospital & Healthsystem Association of Pennsylvania and the Pennsylvania Medical Society. Funding is assured through 2014, and The Authority is in the process of developing a model for sustainability.

Meaningful Use

"Meaningful use" came to the forefront of the healthcare industry in 2009, as an umbrella term for rules and regulations that hospitals and health care providers must meet if ARRA is to authorize CMS to authorize reimbursement incentives as

they progress towards becoming “meaningful users” of certified electronic health record (EHR) technology. This includes using an EHR for functions that both improve and demonstrate the quality of care, as well as submission of quality measures to CMS. Meaningful Use sets goals about health care, rather than information technology, including:

- Improve the quality of care, efficiencies and safety in treating patients
- Reduce health disparities
- Engage patients and families
- Improve care coordination
- Improve population and public health
- Guarantee adequate privacy and security protection of personal health information (PHI)

Nationally, Meaningful Use is being deployed in stages. Stage 1 mostly involved implementation of an EMR system capable of doing things like ordering lab tests and prescriptions for patients, checking for possible interactions between drugs before prescribing a drug to a patient, maintaining current lists of patient allergies, adequately protecting electronic health information and engaging in health information exchange. Stage 2 expanded the requirements of stage 1 while also necessitating more robust digital exchange of information with patients.

Regional Extension Centers (REC) were created using funding under the Health Information Technology for Economic and Clinical Health (HITECH) Act to assist healthcare providers with the selection and implementation of EHR technology. Nationwide, the REC program seeks to support 100,000 primary care providers, with particular emphasis given to practices with fewer than 10 clinicians and those serving uninsured, underinsured and medically underserved populations. In Pennsylvania, there are two RECs, PA REACH East and PA REACH West. Together, these organizations have contracted with over 5,800 healthcare providers. Over 5,000 of these are actively using their EHR to do things like ePrescribe and generate quality reports, and over 4,000 of them have achieved “Meaningful Use” based on requirements set forth by the Centers for Medicare & Medicaid Services.²

By the end of January 2014, 14,997 Meaningful Use payments were made to professionals and hospitals in Pennsylvania under the Medicare program and 6,765 payments were made under the Medicaid program. This translates into nearly \$939 million in payments.³

Health Information Exchange

The term HIE may refer to the act of sharing health information between unaffiliated organization, or to the organizations themselves as they enable sharing. In short, HIE is about making sure that all important medical information about a patient is available to a health care provider any time they need it in the course of diagnosis and treatment. Use of HIE enables faster and more accurate diagnosis and treatment, due to more complete information; ability to spot and address gaps in care (e.g., preventive, chronic maintenance); and avoid redundancy, saving time and money while reducing risk for the patient (i.e., radiation exposure from unnecessary/redundant testing)

Examples include:

- **Discharge summaries**—Hospitals and emergency departments typically provide written instructions for follow-up care to patients at discharge but these instructions are often not communicated to the primary care provider, specialist, or other member of the patient’s health care team. In many cases, the providers responsible for follow-up care do not even know their patient was in the hospital. Exchanging discharge summaries electronically promotes more effective follow-up, improving outcomes and in some cases preventing unnecessary readmissions. As of the end of 2012, all interested providers in Pennsylvania had at least one option for exchanging discharge summaries. As of December 2013, nearly all organizations offering HIE services in Pennsylvania provide the ability to exchange discharge summaries, and all intend to do so by the end of 2014. The Authority is working to develop means of measuring the rates of discharge summary exchange in Pennsylvania.
- **ePrescribing**—Physicians enter a prescription into an automated data entry process and it is delivered to the pharmacy automatically. Not only do these systems simplify administrative processes, they help to avoid clinical

errors due to illegible instructions. More advanced systems also include clinical decision support (CDS) features such as dosage and alternative medication suggestions, duplicate therapy warnings, and drug-drug and drug-allergy interaction checking. ePrescribing helps avoid mistakes due to incomplete information. Studies by SureScripts, the nation's largest provider of ePrescribing services indicate that there is an even better chance of patients filling prescriptions when they are done via ePrescription. In Pennsylvania, more than 95 percent of all pharmacies are enabled for ePrescribing.⁴

- **Computerized provider order entry (CPOE) and results delivery**—CPOE enables providers to use computer-based systems to order procedures or diagnostic tests. Results are delivered back to the ordering physician in the same way. Often this links the information directly into the EHR system of that physician. This helps to reduce administrative burden and avoid clinical errors. CPOE is often used in conjunction with ePrescribing systems and with CDS to alert physicians to abnormal results or orders that go unfulfilled. In Pennsylvania, nearly 90 percent of all labs are enabled to receive electronic orders and send back electronic results.⁵
- **Clinical/historical lists**—Lab, imagery, procedures, pharmacy, allergy, current historical conditions and other information are all provided. While most providers will take a medical history in discussion with the patient, this fills in the gap if the patient's memory is incomplete or inaccurate, or if the patient is severely ill or injured. Enabling historical lists allows providers to quickly and easily get accurate and nearly comprehensive information, reducing the burden on patients to remember, while helping providers to make faster and better diagnoses, avoid prescription of ineffective or even harmful treatments, and in some cases helps to avoid unnecessary expense due to repeated procedures and tests. According to surveys conducted by the Authority, six out of eleven organizations offering HIE services in Pennsylvania provide clinical and historical list support, and eight out of 11 intend to do so by the end of 2014.⁶
- **Coordination of care/transition of care**—Both of these processes benefit tremendously from timely and complete health information exchanges. This enables more collaborative care models, such as patient-centered medical homes. Usually, this occurs to support partnering between health care providers to sustain and coordinate ongoing care. Some models include patients and their family caregivers, allowing access to key pieces of information in order to make transitions of care smooth, safe and effective. This requires "timely" transfer of information from each care setting to the next, so HIE is an ideal mechanism. Seven of 11 organizations offering HIE services in Pennsylvania will include active care coordination in their services offered by the end of 2014.⁷

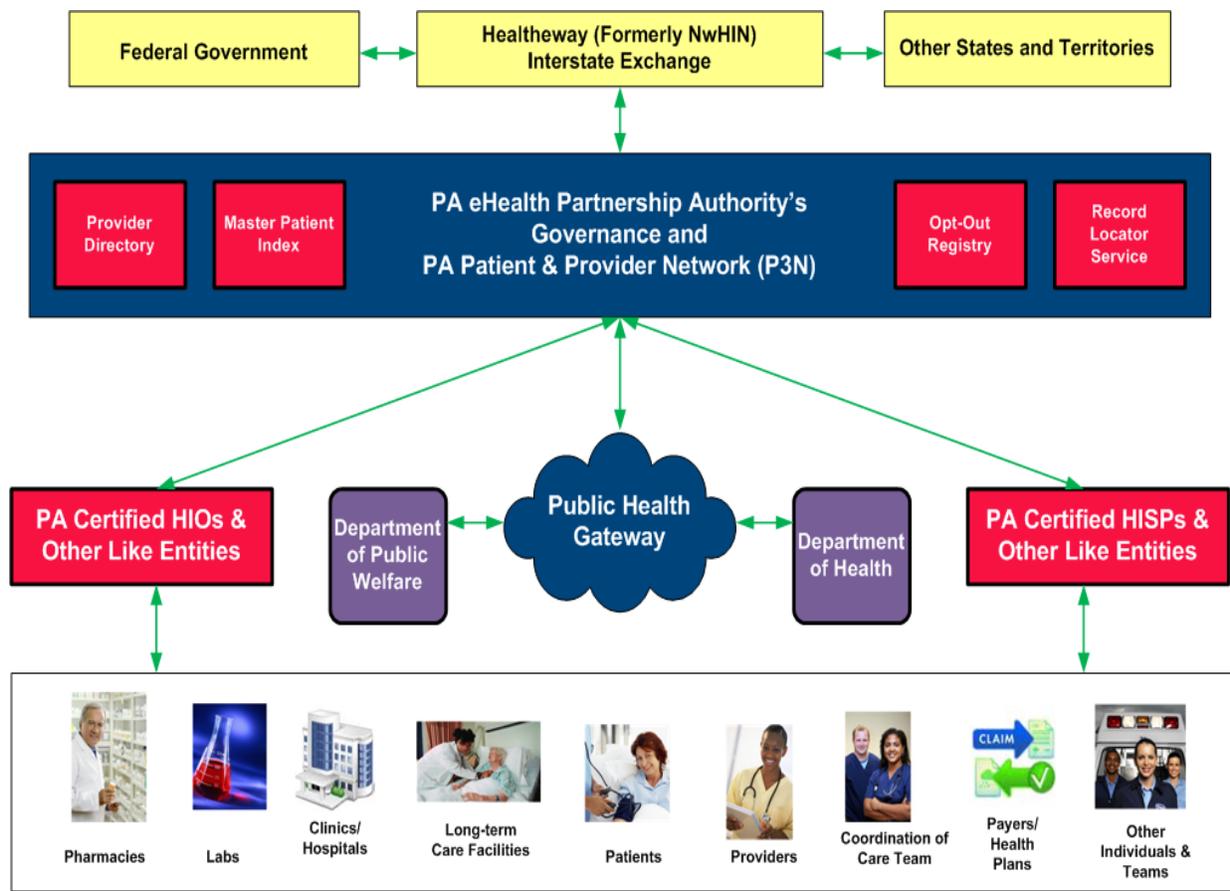
HIE may involve point-to-point exchanges, in which one provider sends the information directly to another provider, or it may involve storing information on a network and allowing participants to query the system for records related to a particular patient.

The DIRECT model is a standard for point-to-point exchange promulgated by the ONC; in its simplest form it essentially operates like email that is specially encrypted and handled by sending and receiving entities that are appropriately credentialed to ensure security. DIRECT is fairly simple to implement and relatively low-cost. DIRECT can also be used to automate exchange of health information between systems, and providers are increasingly leveraging these capabilities. For example, in 2013 the Authority conducted a pilot project that enabled the automated DIRECT delivery of lab results from 18 different independent labs to a variety of primary care physicians and facilities.

In Pennsylvania, the Authority has created a program to certify Health Information Service Providers (HISPs), organizations that sell DIRECT services to doctors' offices and other healthcare professionals. In order to get certified, HISPs must comply with rigorous security protocols and policies. Further, they must be capable of interoperating and enable their customers to send and receive DIRECT messages with customers of any other certified HISP. There are five certified HISPs operating in Pennsylvania, with over 7,000 physicians and other professionals enrolled.⁸

The more robust full HIE model that allows queries and other services is also more expensive and more complicated to implement. In Pennsylvania, we are building a multiple-tier "network of networks" to support HIE. Figure 9.34 reflects, at a high level, the HIE connectivity model (network of networks) for Pennsylvania.

Figure 9.34 Health Information Exchange Connectivity Model, Pennsylvania, 2014⁹



2014 Version

Starting at the bottom of the diagram, healthcare providers, patients, and others involved in health care services conduct HIE via either DIRECT services provided by a HISP, or via an HIO (Health Information Organization). All the HIE providers in turn are connected to one another via the Pennsylvania Patient and Provider Network (P3N). The P3N includes a Public Health Gateway (PHG) that provides a single connection from the commercial sector for a variety of interactions with the Pennsylvania Department of Health and the Department of Public Welfare. The P3N then connects all other Commonwealth players to Healthway, which is a non-profit public-private partnership that supports HIE across federal agencies and across various state-level entities.

Pennsylvania Patient and Provider Network

It is probably easiest to understand what the P3N is by describing a typical story of how the P3N works. Jim Smith is visiting a new specialist, Dr. Jones, who wants to get as much information about Jim’s medical history and current condition as he can. Dr. Jones sends a request for Jim’s medical records to the network of networks via Acme HIE, with whom he is enrolled and which has provided Dr. Jones with software to access HIE. Acme HIE then sends the request to the P3N, where a series of things happen:

- The P3N checks Dr. Jones in a provider directory to make sure that Dr. Jones is authorized to access HIE.
- The P3N checks an Enterprise Master Patient Index to uniquely identify Jim Smith. This must be done because there are no universal patient identifiers across our health system. So MPIs use various demographic information to make sure that all records associated with this Jim Smith are not comingled with records for other persons named Jim Smith.
- The P3N checks to see whether Mr. Smith is registered in the statewide opt-out registry. This is a database that keeps track of anyone who has asked that their medical records not be shared electronically within the state. Pennsylvania citizens may place themselves on this registry by making a request to the Authority, or they can ask

their doctor to register them. Registering for opt-out does not eliminate a patient’s electronic records, it just prevents anyone from exchanging their records via HIE. That way, no information has been lost if a patient later decides to opt back in.

- Assuming Mr. Smith is not registered for opt-out, P3N then checks to see where records might exist for Mr. Smith across all network participants in a records locator service database. Please note that no actual clinical information about the patient is stored in this database, just pointers to where records do exist, usually in EHR systems operated by that patient’s care giver organizations.
- Finally, the P3N presents a listing of all information available about Jim Smith to Dr. Jones, via Acme HIE. Dr. Jones picks what he wants, P3N pulls all the data from the sources and sends it to Acme HIE, who organizes it and presents it to Dr. Jones in the format that is most useful to Dr. Jones, who can then choose which information about Jim Smith to make part of Mr. Smith’s record in Dr. Jones’s EHR system.

P3N is expected to become fully operational, in Pennsylvania, in the spring of 2014.

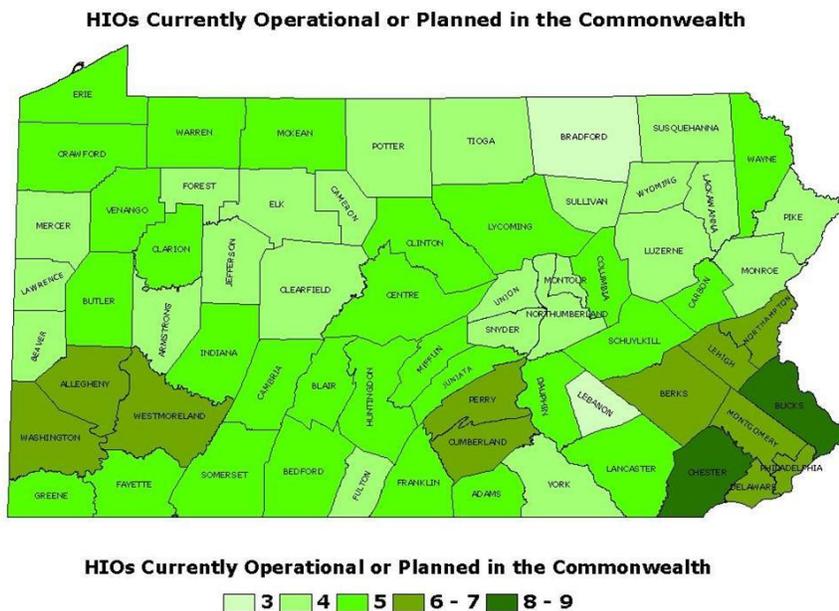
Health Information Exchanges

At the end of 2013, there were at least 11 HIEs operating or forming in Pennsylvania. Some are regional HIEs serving a particular geographic area and some are working (or planning to work) statewide. There are at least three HIEs planning to serve every county in the state, and in most cases at least three HIEs will be available for care providers to choose from. The overlap of HIEs is good news for care providers because it will give them the opportunity to choose an HIE that is most in keeping with their requirements for technical sophistication, pricing and functionality. The [PA eHealth Collaborative HIE Survey Results](#), published in February 2014, provides timing details and services offered.¹⁰

As with HISPs, the Authority is developing a certification program for HIEs to ensure that they meet rigorous privacy and security requirements, are interoperable and are capable of connecting to P3N. This certification program is expected to be available contemporaneously with P3N.

The following map provides a picture of the number of HIEs planning to operate in each county of the commonwealth.

Figure 9.35 Health Insurance Exchanges by County, Pennsylvania, 2014¹¹



Public Health Gateway

Given the important role of state government in protecting the health and welfare of the population, stakeholders recommended that the commonwealth develop mechanisms to connect state agencies to the proposed HIE-Network.

The PHG is the first step in this process, allowing commercial entities to more easily connect to the Department of Health and Department of Public Welfare for a number of functions. An ideal example of how the PHG can make such interactions more efficient and effective is registries. Pennsylvania maintains a variety of registries of health information for various reasons. For example, certain private-sector entities must report information to the government regarding infectious and other diseases, so that this information can be used to identify potential threats to public health in concert with organizations like the national Centers for Disease Control and Prevention. In the past, individual healthcare providers across the commonwealth have had to cooperate with commonwealth agencies on a one-by-one basis to establish and maintain these reporting relationships. With PHG and standards-based transactions, these registries should be much easier to create and maintain.

Future efforts may expand beyond the PHG to facilitate interactions between commercial entities and other government agencies, or permit more effective sharing of health information among various agencies. This should help to reduce costs and inefficiencies that arise when multiple agencies need to collect the same information from the private sector or when one agency needs information held by another agency.

Resources

For more information on national-level Health Information Technology and Health Information Exchange activities and initiatives, please visit the Office of the National Coordinator for Health Information Technology website at www.healthit.gov

For more information on Health Information Exchange activities within Pennsylvania, please visit the Pennsylvania eHealth Partnership Authority website at www.paehealth.com

For details concerning Meaningful Use and Electronic Health Record Incentive Programs, please visit the Centers for Medicare and Medicaid Services website at <https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/index.html>

For information about the Regional Extension Centers in Pennsylvania, please visit www.pareacheast.org in eastern Pennsylvania or www.pareachwest.org in western Pennsylvania.

For details of national and international Health Information Technology technical standards, please visit <http://www.nist.gov/healthcare/index.cfm> or <http://www.hl7.org/> or <https://www.federalregister.gov/articles/2012/09/04/2012-20982/health-information-technology-standards-implementation-specifications-and-certification-criteria-for>

For details of national-level Health Information Technology privacy and security policies, please visit <http://www.markle.org/health/markle-common-framework/connecting-professionals>

Endnotes

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