

# Rural County Health Workforce and Economic Impact Analysis 2011

*for*  
**Pecos  
County**

Presented by Permian Basin AHEC (Area Health Education Center)  
A regional center of West Texas AHEC based at the  
Texas Tech University Health Sciences Center  
In collaboration with East Texas AHEC



In partnership with the  
Texas State Office of Rural Health  
Texas Department of Rural Affairs  
[www.texasruralcountyhealth.org](http://www.texasruralcountyhealth.org)



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Dear Community Partners,

The West Texas AHEC (Area Health Education Center) provides a wide range of community-based activities designed to improve community and individual health. We conduct programs that 1) focus on community health systems analysis and planning; 2) support health workforce recruitment and retention; and 3) provide health literacy information for a variety of community audiences. This work is carried out respectively through five regional centers that cover the western half of Texas. West Texas AHEC and its centers are part of a National AHEC Network across 48 of the 50 states, and one of three programs providing statewide coverage in Texas. Over its 8-year history, West Texas AHEC has developed an extensive network of community healthcare sector and other partner, worked with a variety of community and state organizations and agencies, and has directly impacted tens of thousands of individuals through its outreach programming.

One such partnership effort is this report, *Healthcare and Economic Development: Community Primary Care Physician Workforce Analysis*, for your county, one of an ongoing series of analyses prepared with collaboration and funding support from the Texas State Office of Rural Health, a division of the Texas Department of Rural Affairs (TDRA). As the state agency dedicated solely to rural Texas, TDRA makes the broad resources of state government more accessible to rural communities. The agency ensures a continuing focus on rural issues, monitors governmental actions, recommends solutions to problems affecting rural Texas, and is a provider of rural-focused state and federal resources. TDRA's goal is to strengthen rural communities so that they remain contributors to the prosperity of the state and to the rich cultural identity that is distinctly Texan.

This *Report* consists of five chapters of discussion. The last three chapters are reference material. Two chapters use commonly available information describing your communities and county in a customized analysis of your primary care physician workforce and local economic conditions. One chapter uses information resulting from research and evaluation of the cost of practice development. Two chapters also summarize state and national data obtained from a variety of sources to inform the reader of conditions and trends in health workforce. This report includes information generated by IMPLAN, an economic modeling software program developed by the University of Minnesota, customized for health workforce analysis and planning by Oklahoma State University and Oklahoma Extension. The chapters are as follows:

- 1) *Demand, Supply, and Future Need for Primary Care Physicians* – Uses local data, verified by AHEC regional staff for validity, that helps the reader understand the content of primary healthcare practice, illustrates ways to estimate the need for primary healthcare, and summarizes local information on currently active primary care physicians.
- 2) *Economic Impact of a Rural Primary Care Physician on the Local Economy* – Uses local data to describe the economic impact of adding new physician health professionals to the community.
- 3) *Cost and Revenue of a Rural Primary Care Practice* – Uses generally accepted methodology and locally verified data to estimate the incremental cost of starting a primary care physician practice, and its potential to generate revenue.
- 4) *Health Workforce and Primary Care Trends* – This resource chapter summarizes general information

profiling physician supply and demand, and presents information on current state and national trends.

- 5) a) *Health Professional Shortages Areas and Physician Scarcity Areas: A Brief Overview*  
b) *Rural Health Clinics and Federally Qualified Health Clinics: A Brief Overview*  
c) *National Health Service Corps: A Brief Overview*  
Provides a background discussion on the terminology and various tools used to define and quantify physician workforce issues that specifically impact rural areas.

West Texas AHEC and the rural health office of TDRA have worked collaboratively on a variety of health workforce recruitment and retention efforts. West Texas AHEC works collaboratively with South Texas AHEC and East Texas AHEC as well, and has provided analyses of counties in their service areas to their respective regional staffs.

This project is important for several reasons. The report:

- 1) informs community leaders of local healthcare sector factors.
- 2) promotes an economic impact perspective when considering local healthcare.
- 3) stimulates community action supporting the local healthcare sector
- 4) serves as the basis for additional health workforce planning and development activities

Two important sources of information underscore the relevance of concern for rural health workforce.

According to the 2009 State Physician Workforce Data Book published by the American Association of Medical Colleges' Center for Workforce Studies, Texas is 47<sup>th</sup> of 50 states in the ratio of primary care physicians, 68.5 per 100,000 population. This report, found at <http://www.aamc.org/workforce/statedatabook/statephysiciandatabooksept09.pdf> also states that Texas does a good job of growing our own and keeping them, however not enough physicians are being trained and not enough are going into primary care.

*Supply Trends Among Licensed Health Professions, 1980-2009*, prepared by the Texas Department of State Health Services' Health Professions Resource Center, in collaboration with the East Texas AHEC reports that Texas continues to remain far below national averages for most health professionals, including primary care physicians. The publication can be found at <http://www.dshs.state.tx.us/chs/hprc/09trends.pdf>.

West Texas AHEC is committed to the analysis of information that informs local leaders and regional and state policy makers, and assists in program planning and implementation which will ultimately lead to improved health of the individuals and communities it serves. West Texas AHEC appreciates the interest of TDRA in supporting this reporting effort as it furthers the interests of rural communities.

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# Demand, Supply, and Future Need for Primary Care Practitioners in Pecos County, Texas

For the purposes of this report, primary care practitioners include family practitioners, internal medicine physicians, OB-GYN practitioners, and pediatricians, as well as mid-level practitioners providing primary care health services, including nurse practitioners (NP), certified nurse midwives (CNM), and physician assistants (PA). All of these types of physicians and mid-level practitioners should be considered when analyzing the primary care medical needs in Pecos County.

In order to consider the supply, demand, and future need for primary healthcare providers, an understanding of several factors must be considered. Basic population characteristics are the starting point for understanding the medical service area (MSA). The MSA can include primary, secondary, and sometimes tertiary healthcare facilities, and is not necessarily restricted to a county boundary. Groups of nearby communities often comprise an MSA, whose needs are met by the practitioners in one or more of those communities. Migration for care occurs within the MSA and may also be seen as in-migration for care. An MSA may lose population to other patient care centers periodically for both primary care services in addition to specialty services not available in the MSA. Eventually, migration for care will re-define the geography of the MSA. For the purposes of this report Pecos County is defined as the primary MSA. This study will utilize and make assumptions using Pecos County data.

The latest population estimates by age and gender for a county can be obtained from the U.S. Census Bureau.<sup>4</sup> According to the U.S. Census Bureau estimates, the total population for Pecos County for

2009 was 16,248. **Table 1** presents the latest U.S. Census estimated population for Pecos County for 2009 by age group and gender.

**Table 1**  
**2009 Estimated Population**  
**for Pecos County, Texas**

2009 Population				
Age	Male	Female	Totals	% of Total
< 15	1,788	1,738	3,526	21.7%
15-24	1,897	1,081	2,978	18.3%
25-44	2,303	1,796	4,099	25.2%
45-64	2,029	1,793	3,822	23.5%
65-74	489	490	979	6.0%
75+	395	449	844	5.2%
Total	<b>8,901</b>	<b>7,347</b>	<b>16,248</b>	<b>99.9%</b>

Source: 2009 population estimates, U. S. Census Bureau, January 2011.

**Demand** for direct patient care services can be estimated based on the demographic characteristics of the population. To determine physician demand, age breakdown of the population by male and female gender was used. The types of practitioners available to respond to need are also defined by the population. A community with a younger age segment will need a child healthcare provider, while a community with primarily older residents would be better served by a caregiver with interest and expertise in older adult, geriatric care, and perhaps end-of-life care.

**Tables 2a** and **2b** present the same age groups with corresponding estimated number of annual office visits by gender. The National Ambulatory Medical Care Survey updates the office visits by age

and gender annually; the latest data for 2009 was provided in November 2010.<sup>3</sup> For instance, for males under age 15, the average number of annual office visits is 2.9 visits per year. For females age 75 and older, the average number of annual office visits is 7.3 visits per year. Utilization rates and office visits per physician might vary slightly with rural primary care practitioners. Research suggests that utilization per person in rural areas might be lower than the national average due to lower patient incomes and lower rates of insurance coverage.<sup>5</sup> Rural medical service areas have a higher proportion of elderly, making age analysis critical for estimating the number of rural visits. However, in the absence of specific rural data, national coefficients serve as the best available approximations.

**Tables 2a** and **2b** illustrate the total office visits for Pecos County, Texas. The average annual visit rates were applied to Pecos County data to estimate the number of primary care office visits in the county. For example, 1,788 males under age 15 will generate 5,185 office visits (2.9 x 1,788).

**Table 2a**  
**Estimated Total Physician Office Visits by Males**  
**for Pecos County, TX**

Age	2009 Population	Visit Rate	Male Visits Totals
< 15	1,788	2.9	5,185
15-24	1,897	1.4	2,656
25-44	2,303	1.6	3,685
45-64	2,029	3.2	6,493
65-74	489	6.6	3,227
75+	<u>395</u>	8.0	<u>3,160</u>
Total	<b><u>8,901</u></b>		<b><u>24,406</u></b>

**Table 2b**  
**Estimated Total Physician Office Visits by Females for Pecos**  
**County, TX**

Age	2009 Population	Visit Rate	Female Visits Totals
< 15	1,738	2.6	4,519
15-24	1,081	2.5	2,703
25-44	1,796	3.3	5,927
45-64	1,793	4.3	7,710
65-74	490	6.8	3,332
75+	<u>449</u>	7.3	<u>3,278</u>
Total	<b><u>7,347</u></b>		<b><u>27,469</u></b>

Females under 15 were estimated to generate 4,519 office visits. The total annual office visits were 24,406 for males and 27,469 for females, for a grand total of 51,875 visits for Pecos County (**Table 2c**).

**Table 2c**  
**Estimated Primary Care Physician and Specialty Physicians**  
**Office Visits and Estimated Primary Care Physicians**  
**Needed for Pecos County, TX**

	Total Population	Summary Totals
Pecos County	16,248	<b><u>51,875</u></b>
Total Estimated Primary Care Physician Office Visits (58.3%)		<b><u>30,243</u></b>
Primary Care Physicians Needed (100% Usage)		<b><u>6.0</u></b>
Total Primary Care Physicians Needed (90% Usage)		<b><u>5.4</u></b>
Total Primary Care Physicians Needed (80% Usage)		<b><u>5.0</u></b>
Estimated Specialty Physician Office Visits (41.7%)		<b><u>21,632</u></b>

Source: 2009 population estimates, U. S. Census Bureau, January 2011; 2007 annual physician office visit rates by age and gender population groups, "National Ambulatory Medical Care Survey," National Health Statistics Reports, No. 27, November 3, 2010.

These office visits are for visits to all types of physicians, both primary care practitioners and specialists, who tend to reside in regional population centers. To determine the number of office visits to primary healthcare practitioners, the National Ambulatory Medical Care Survey data indicate that 58.3 percent of the total office visits are to primary care practitioners. The total office visits to primary care practitioners in Pecos County is estimated to be 30,243 visits. The total annual primary care office visits were made to physicians or mid-level practitioners (physician assistant, nurse practitioners, certified nurse midwives) actively providing primary care patient care.

Using the assumption that a primary care physician services an average of 5,000 office visits per year and that local usage of primary care is at 90 percent, the data would indicate that Pecos County needs 5.4 primary care physicians (**Table 2c**). The local usage rate of primary care varies by community and local leaders will determine this rate. Mid-level practitioners provide an average of 2,500 office visits per year and this average should be applied to determine the mix between primary care physicians and mid-level practitioners providing primary patient care. This study is based on a county medical service area and, therefore, the number of primary care physicians needed and the number of primary care physicians actually practicing may not always relate. Physician medical service areas may vary considerably and physicians may draw patients from a much wider medical service area than the county. The physician medical service area should be analyzed closely by the local leaders to ensure it is the area from which the primary care physicians draw the majority of their patient base. The population base may need to be adjusted accordingly. The remaining 21,632 annual physician office visits in Pecos County were made to specialty physicians (**Table 2c**).

**Supply** determinations of primary healthcare professionals are not as straightforward as one might expect. Texas maintains data for licensed healthcare professionals, including physicians, PAs, NPs,

and CNMs. However, the data for each discipline are somewhat different, and additional information is sometimes necessary to better understand supply, capacity, and capability to meet needs. That translates to access and availability of care in the community. Seeking primary source data from key informants at the community level is often necessary. This report results from use of national, state, and locally gathered information to report local supply of primary healthcare professionals. **Table 3** depicts the Physician Supply Characteristics for Pecos County.

**Table 3**  
**Practitioner Supply Characteristics**  
**Pecos County**

Total Number of Physicians	12
Number of Primary Care Physicians	8
Number Active in Practice	8
Average Age of Physicians	57
Number over Age 60	2
Number of Physician Assistants	4
Number of Nurse Practitioners	4
Number of Nurse Midwives	0

Source: Health Professions Resource Center, Texas Department of State Health Services, analysis of physician licensure database, January 2010, verified at local level by East Texas AHEC regional operations staff.

Physician data serve as the focus for this discussion. Information important to incorporate when considering supply and future need include such factors as age of provider, which limits longevity in practice; percent of time spent in direct patient care when other business pursuits or lifestyle choices may limit patient care services; and locations where patient care is provided, such as when the provider has offices in more than one community. The content of direct patient care practice is also an important influence. The primary healthcare provider may divide significant amounts of time among ambulatory clinic patient care visits, in-patient hospital care, surgery, obstetrics, emergency room, and nursing home patient care

(Table 4). All these responsibilities in different patient care settings cumulatively impact the direct patient care volume or burden of

work for the individual healthcare professional. Increased patient visits and longer work hours for rural practitioners has been documented by studies.

**Table 4**  
**Patient Care Support Volume**  
**Pecos County**

Births Delivered in County, 2009 *	194
In-Patient Hospital Census, 2009 **	4,642
Emergency Room visits, 2009 **	8,088
Nursing Home Resident census, 2009 ***	N/A
Surgery Case Count, 2009 **	779

\*Source: TX Dept State Health Services, Vital Statistics, November 2010;

\*\*Source: TX HealthCare Information Council, as of Q1 2008.

\*\*\*Source: Information not currently available.

N/A - Not available.

Given this physician supply information, concern might develop regarding age of providers, and their potential longevity in practice. For a well-rounded local healthcare workforce that can address the community needs, the appropriate clinician mix is needed to respond to the characteristics of the population. The healthcare workforce may include a range of services; i.e., surgery, obstetrics, nursing home care, and wellness and prevention programs

**Future need** for primary healthcare providers must take into account many different factors, including trends in population growth or loss, characteristics of the population, geographic distribution of providers compared to that of the population, presence of special population groups in or near the community, and facilities such as clinics, hospital, and nursing homes to support healthcare providers. In

addition, access to health services impacts the quality of care that health professionals expect to be able to provide.

Community planning, development, and investment in the local healthcare system infrastructure are essential considerations for community leaders. Local healthcare system planning should be considered as important as other community infrastructure needs such as quality schools, improved streets, good water and sanitation systems, and fire and police protection.

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# The Economic Impact of a Rural Primary Care Physician On the Economy of Pecos County, Texas

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Many people have limited knowledge of the economic importance of the health care system to the local community. Primary care physicians are a major part of the health care system. In most rural communities primary care physicians are the principal provider of local health care services.<sup>1</sup>

Economically, primary care physicians contribute in two very important ways. First, a primary care physician (PCP) operates a medical clinic and pays administrative and medical staff to provide services to patients. Second, a PCP contributes to the local hospital through inpatient admissions and outpatient services. A large portion of the revenues generated by a PCP practice will be returned to the local community. Local expenditures support jobs, create additional wages and salaries (income), and provide tax revenues that are vital to the local economy. As these dollars continue to be spent in the community, the multiplier effect generated by the PCP becomes clear. In addition to the PCP, new employment opportunities for the clinic's medical staff will be created along with corresponding wages, salaries, and benefits.

The economic impact of a PCP practice, measured by the direct employment, payroll, and revenues, is significant. The physician contributes directly to the local hospital through direct employment, payroll, and revenues; this raises the direct impacts considerably. However, this does not tell the complete story as secondary economic impacts are created when the physician and physician office employees and the local hospital and the hospital employees spend money in the local economy. These secondary benefits are measured by multipliers using an input-output model and data from IMPLAN, a model that is

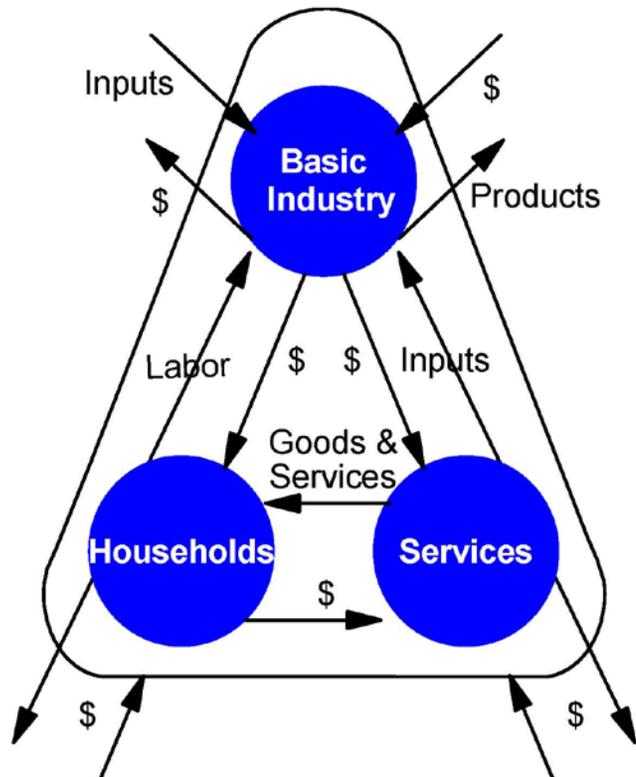
widely used by economists and other academics across the United States.

## **The Multiplier Effect** (see Figure 1 below)

To further explain the concept of a multiplier, consider, for instance, the closing of a hospital. The hospital no longer pays employees, and dollars going to these households will stop. Likewise, the hospital cannot purchase goods from other businesses, and the dollars flowing to those other businesses will stop. As a result, household income and revenues for other businesses in the economy will be decreased.

Since earnings would decrease, households and businesses decrease their purchases of goods and services from other businesses. This in turn, decreases these businesses' purchases of labor and inputs. Thus, the change in the economic base works its way throughout the entire economy.

A measure is needed that yields the effects created by an increase or decrease in economic activity. In economics, this measure is called the multiplier effect. An employment multiplier of 1.28 indicates that if one job is created by a new industry, 0.28 additional jobs are created in other sectors due to business and household spending. The model calculates employment, income, and output multipliers.



**Figure 1 - Community Economic System**

Based on research by the National Center for Rural Health Works, on average a solo PCP practice at full operating capacity will employ three employees; a licensed practical nurse (LPN), a medical assistant, and a receptionist/billing clerk.<sup>1</sup> **Table 1** summarizes the typical personnel costs of a solo PCP, including the estimated income for the PCP (family or general practitioner). Assuming a benefit ratio of 25 percent, the total estimated annual personnel costs of a solo PCP practice is \$341,813.

**Table 2** summarizes the employment, personnel costs, and total revenues of a solo PCP practice. These are the direct economic

contributions from the clinic portion of the PCP practice. The clinic generates revenues of \$422,576. From these total revenues, the clinic pays payroll plus proprietor income of \$341,813 for the four clinic employees.

**Table 1  
Typical Personnel Costs  
of a Solo Primary Care Physician Practice in Rural Texas**

Type of Occupation	Avg Annual Costs
Family or General Practitioner	\$181,000
Licensed Practical Nurse (LPN)	\$40,710
Medical Assistant	\$27,020
Receptionist	\$24,720
Subtotal - Wages, Salaries, & Proprietor Income	\$273,450
Benefits @ 25%	\$68,363
Estimated Personnel Costs of a Solo PCP Practice	<b>\$341,813</b>

**Table 2  
Rural Solo PCP Practice in Texas -  
Estimated Employment, Income, & Revenues**

Category	Totals
Employment	4
Income (Labor Costs including Benefits)	\$341,813
Revenues	\$422,576

For the hospital portion of the PCP practice, **Table 3** summarizes the annual direct economic contributions. The American Medical Association, Center for Health Policy Research indicated that on average, one PCP generated 134.4 inpatient discharges. Based on confirmed local data to allow for inflation and regional variances, each inpatient discharge generated average revenues of \$4,057, resulting in total annual inpatient revenues from one PCP of \$545,261. Outpatient net revenues as a percent of inpatient net

**Table 3**  
**Inpatient Discharges, Revenues, Employment and**  
**Wage and Salaries and Benefits**  
**Generated by a Rural Physician at Local Hospital**

No. of Inpatient Discharges	<u>134.4</u>
Inpatient Revenues	\$545,261
Outpatient Revenues	<u>\$352,784</u>
<b>TOTAL Revenues</b>	<b><u>\$898,045</u></b>
<b>Employment</b>	<b><u>13</u></b>
<b>Wages, Salaries and Benefits</b>	<b><u>\$634,920</u></b>

revenues were determined to be 64.7 percent, resulting in estimated outpatient revenues of \$352,784. This brings the total annual revenues from one PCP practicing at the hospital to \$898,045.

**Table 4a**  
**Direct Impact of a Rural Primary Care Practice**  
**from Clinic and Hospital Activities**

	<b>Revenue</b>
Clinic	\$422,576
Hospital	<u>\$898,045</u>
<b>Total</b>	<b><u>\$1,320,621</u></b>
	<b>Income<sup>1</sup></b>
Clinic	\$341,813
Hospital	<u>\$634,920</u>
<b>Total</b>	<b><u>\$976,733</u></b>
	<b>Employment</b>
Clinic	4
Hospital	<u>13</u>
<b>Total</b>	<b><u>17</u></b>

<sup>1</sup> Income includes wages, salaries and benefits, and proprietor income, when applicable.

Revenues to the hospital from the PCP activity will also support employment and generate payroll. Based on an average hospital salary (including benefits) of \$48,840, the total revenues are estimated to generate 13 hospital jobs, with wages, salaries, and benefits (income) of \$634,920. These are the direct economic contributions of a PCP in a rural Texas community with a local hospital (**Table 4a**). **Table 4a** summarizes the direct impact of a rural PCP from both clinic and hospital activities. Remember that income is a part of total revenues and these two cannot be totaled.

Secondary and total impacts are presented in **Table 4b**. Data in the table present the direct, secondary, and total impacts of the PCP clinic and the business that the typical PCP brings to the local hospital.<sup>6</sup>

**Table 4b**  
**PCP Impact from Clinic and Hospital Activities**  
**on Revenues, Income<sup>1</sup> and Employment**

	Direct Impact	Multiplier	Secondary Impact	Total Impact
<b>Revenues</b>				
Clinic	\$422,576	1.33	\$139,450	\$562,026
Hospital	<u>\$898,045</u>	1.27	<u>\$242,472</u>	<u>\$1,140,517</u>
<b>Total</b>	<b><u>\$1,320,621</u></b>		<b><u>\$381,922</u></b>	<b><u>\$1,702,543</u></b>
<b>Income<sup>1</sup></b>				
Clinic	\$341,813	1.17	\$58,109	\$399,921
Hospital	<u>\$634,920</u>	1.27	<u>\$171,428</u>	<u>\$806,348</u>
<b>Total</b>	<b><u>\$976,733</u></b>		<b><u>\$229,537</u></b>	<b><u>\$1,206,269</u></b>
<b>Employment</b>				
Clinic	4	1.40	2	6
Hospital	<u>13</u>	1.37	<u>5</u>	<u>18</u>
<b>Total</b>	<b><u>17</u></b>		<b><u>7</u></b>	<b><u>24</u></b>

<sup>1</sup> Income includes wages, salaries and benefits, and proprietor income, when applicable.

The total direct revenue impact from the clinic was \$562,026. This figure was calculated by multiplying the national average for direct clinic revenues of \$422,576 times the output multiplier of 1.33. The secondary clinic impact totals were \$139,450. The secondary revenue impact from the hospital is \$242,472 and the total hospital revenue impact is \$1.1 million. The total revenue impact from a PCP on Pecos County is estimated to be \$1.7 million; of this total, revenues of \$381,922 are the secondary revenues generated in the other businesses and industries as a result of the direct impact revenues generated by the PCP practice of \$1.3 million.

Income is defined as wages, salaries, benefits, and proprietor income. The income generated directly through the clinic activities totals \$341,813 and the income generated directly through the hospital activities totals \$634,920. After applying the multipliers, the secondary income impacts and total income impacts are derived. The secondary income impact generated from clinic activities is estimated at \$58,109, with a total income impact from clinic activities of \$399,921. The secondary income impact generated from hospital activities is estimated at \$171,428, with a total income impact from hospital activities of \$806,348. The total income impact from a PCP on Pecos County is estimated to be \$1.2 million; of this total, secondary income of \$229,537 is generated in other businesses and industries as a result of the income directly generated by the PCP practice of \$976,733.

The PCP practice has 4 direct employees from clinic activities and generates 13 jobs from hospital activities. The clinic sector has an employment multiplier of 1.40 and results in secondary employment impact of 2 employees and total employment impact of 6 employees from clinic activities. The hospital has an employment multiplier of 1.37 and results in secondary employment impact of 5 employees and total employment impact of 18 employees from hospital activities. The total employment impact from a PCP in Pecos County is 24 employees; the secondary employment impact is 7

employees, all resulting from the total direct employment of 17 employees.

In summary, the economic contribution of a rural PCP is extremely important to the economy of Pecos County. One solo rural PCP generates approximately \$1.7 million in revenue, \$1.2 million in income (wages, salaries, benefits and proprietor income) and creates 24 jobs in the Pecos County economy. This assessment underestimates the total value of a rural PCP, as their impact on other sectors such as pharmacy and nursing homes is not included. Thus, a PCP's *economic* contributions are as important to a community as their *medical* contributions. As our nation faces a growing physician shortage, it is absolutely critical that rural leadership across the United States understand that rural communities are at risk of losing much more than the opportunity to receive local medical care.

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# Costs and Revenues to Establish a Solo Rural Primary Care Physician Practice in Texas

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Upon graduation, physicians are faced with a set of challenges regarding their future direction.<sup>1</sup> The options include becoming a staff physician at a hospital, partnering with an existing physician, or starting and operating their own practice. The decision process can be difficult if adequate preparation is not made. While these new graduates are equipped with the best medical training, many are searching for additional “real world” information to enable a successful transition to employment.

There are a lot of decisions that must be made if the physician chooses to open his/her own practice. Decisions relative to location, building (purchase, construct or lease), equipment, staffing requirements, etc. are all part of the process. Some of these decisions will require considerable time, such as securing funding for purchasing or constructing a new building. The American Academy of Family Physicians provides the following example of a timetable for starting a practice.<sup>2</sup> Additional time might be required for architectural services, permit requirements, and financing if a physician chooses new construction as opposed to buying an existing building or leasing.<sup>3</sup>

## **One year before opening a practice**

1. Establish personal and professional goals.
2. Select a geographic location.
3. Evaluate possibilities for recruitment assistance from hospitals.

## **Six months before opening a practice**

1. Decide on office location and start lease negotiations.
2. Select professional advisors.
3. Decide on mode of practice.
4. Begin obtaining required licenses.
5. Seek sources of funding.

6. Determine advertising outlets.
7. Approach third-party payers to become a participating physician.

## **Three to six months before opening a practice**

1. Apply for hospital staff privileges.
2. Begin to recruit office staff.
3. Begin to establish professional contacts.
4. Purchase/lease office furniture/equipment.
5. Select bank/professional liability insurer.
6. Develop fee schedule; establish billing system.
7. Select a computer system.

## **One to three months before opening a practice**

1. Finalize office staff.
2. Create an official policy manual.
3. Finalize required licenses and permits.
4. Advertise in the local area.
5. Purchase needed office/clinical supplies.
6. Establish scheduling/patient recall systems.
7. Establish coverage-sharing arrangements.
8. Continue to establish professional contacts.

Once a new physician has carefully outlined personal and professional goals, the next challenge is to determine the location of the practice. The physician should make this decision based on personal reasons and (most importantly) opportunities for professional success. In particular, a community’s potential for supporting a new family physician must be evaluated. The previous section estimated the number of primary care physicians the medical service area can support. The costs and revenues associated with opening and operating a rural primary care physician practice are illustrated here.<sup>4</sup>

**Table 1** shows the total annual practice revenues of \$422,576.

**Table 1**  
**Total Annual Revenue for a Solo Rural**  
**Primary Care Physician Practice**

Initial Office Visits	766	
Avg Collected/Visit	<u>\$95</u>	
<b>Total Collected</b>		\$72,770
Routine Office Visits	4,338	
Avg Collected/Visit	<u>\$71</u>	
<b>Total Collected</b>		\$307,998
Hospital/Nursing Home Visits	536	
Avg Collected/Visit	<u>\$78</u>	
<b>Total Collected</b>		<u>\$41,808</u>
<b>TOTAL Revenues</b>		<b><u>\$422,576</u></b>

**Table 2** shows the annual costs including labor (personnel) with benefits of \$236,963.

**Table 2**  
**Total Annual Costs for a Solo Rural**  
**Primary Care Physician Practice**

Building Costs		36,229
Equipment		\$9,368
Labor	<b>\$92,450</b>	
Benefits (25%)	<u>\$23,113</u>	
<b>Total Labor Cost</b>		<b>\$115,563</b>
Operating Costs		\$75,803
<b>TOTAL Annual Costs</b>		<b><u>\$236,963</u></b>

**Table 3** shows the total income for the primary care physician to be \$185,613. The revenues and costs are based on average revenues

and costs developed through a survey of primary care practitioners in rural Oklahoma. Revenues and costs were adjusted for Texas based on inflationary factors and regional differences.

**Table 3**  
**Total Annual Revenues, Costs, and Income for**  
**a Solo Rural Primary Care Physician Practice**

<b>TOTAL Annual Revenues</b>	<b><u>\$422,576</u></b>
<b>less TOTAL Annual Costs</b>	<b><u>\$236,963</u></b>
<b>Income*</b>	<b><u>\$185,613</u></b>

\* If revenues increased by 10%, income could increase to \$204,174

These revenues, costs, and income of a solo rural primary care physician are based on operating at full capacity. However, it typically will take three to five years before a primary care practice is operating at full capacity. **Tables 4** and **5** show the practice income based on three-year and five-year scenarios, respectively. In **Table 4**, based on the three-year scenario, the practice will basically have no income until the third year of practice.

**Table 4**  
**Assume 3 Yrs. to Achieve Full Capacity -**  
**Annual Revenues, Costs, & Income for a**  
**Solo Rural Primary Care Physician Practice**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Revenues	\$139,450	\$211,288	\$422,576
less Costs	<u>\$182,610</u>	<u>\$204,262</u>	<u>\$236,963</u>
Income	<u>(\$43,160)</u>	<u>\$7,026</u>	<u>\$185,613</u>

In **Table 5**, the practice will take even longer to cover the losses in the first three to four years, before having any viable income. This indicates that the practice must borrow not only enough to cover capital and operating cost outlays, but may need to borrow enough to cover income shortages for several years.

**Table 5**  
**Assume 5 Yrs. to Achieve Full Capacity-**  
**Annual Revenues, Costs, & Income for a**  
**Solo Rural Primary Care Physician Practice**

	<b>Year 1</b>	<b>Year 3</b>	<b>Year 5</b>
Revenues	\$86,629	\$139,450	\$422,576
Costs	<u>\$163,504</u>	<u>\$177,722</u>	<u>\$236,963</u>
Income	<u>(\$76,875)</u>	<u>(\$38,272)</u>	<u>\$185,613</u>

Communities who desire to recruit a primary care physician have often taken a very proactive role to assist with this initial cash flow problem. Many communities assist new physicians by providing cash incentives to assist with covering the initial losses. Typically, the community will require a contractual arrangement that the physician remain in the community for a certain number of years in order to receive their assistance. The assistance can be provided by the local hospital, by other local health care providers, by local businesses or industries, by local civic groups, through local fundraisers, through grants or loans, through local Chambers of Commerce support, etc. Local community support groups can be formed to determine the best possible options for their specific community needs. A new physician can lower expenses by joining a physician practice or group and these local health care practitioners will often supplement the new physician temporarily until the practice is established and generating adequate revenues.

With the current shortage of primary care physicians in rural areas and with the impending ever-increasing shortage of primary care physicians for the future, rural communities are wise to be proactive and creative in their recruitment and retention of primary care physicians. Primary care practitioner shortages reduce access to care for the rural areas and have led to poor health outcomes. Medical schools and state and federal agencies and programs are rising to the challenge by initiating incentive programs aimed at reducing these shortages.

Medical schools increasingly are placing students in rural rotations in an effort to introduce them to the rural practice experience. Several determinants have been identified that assist in predicting the successful placement of a graduate family practitioner in a rural area. These include: being selected for a rural preceptorship, growing up in a rural area, and attending college in a rural area. Programs are in place to increase the number of family practitioners in rural areas through grow-your-own initiatives where the brightest students with potential for medical school are fostered by rural communities throughout their studies. Then in return for the financial support and assistance, the resulting medical graduates repay the community through their service.<sup>5</sup> Along with these, Rabinowitz et al. identified a strong correlation between the background and early career plans that medical students had upon entering medical school and future rural primary care practice and retention.<sup>6</sup> Interviews with primary care practitioners and health care administrators were conducted in six rural areas in California which culminated in an issue brief produced by the California Policy Research Center.<sup>7</sup> Their findings outlined some location considerations that primary care practitioners made. The interviewees considered:

1. financial solvency of clinics and group practices they might join,
2. competency of administrators and boards of directors,
3. presence of other primary care practitioners,
4. proximity to hospitals, and
5. relationships already established with specialists at regional referral centers.

Along with these location considerations, the interviewees found government programs such as Primary Care Health Professional Shortage Area designations, the National Health Service Corps (NHSC) and NHSC/State Loan Repayment programs, Federally Qualified Health Center (FQHC), and Rural Health Clinic designations were needed to assist with recruitment in rural areas because of insufficient financial resources available from private firms.

In summary, increasing demand for rural primary care physicians in the United States is a critical issue. Medical schools and their accreditation partners are placing emphasis on solutions to the shortage through increasing family practice graduates. State and federal government programs are striving to assist. And, rural communities are instituting other initiatives in an effort to preserve rural health care services for their residents.

### Sources

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# Texas Loan Repayment Programs

	National Health Service Corps (NHSC)	Conrad 30 J-1 Visa Waiver Program	Physician Education Loan Repayment Program (PELRP)	Dental Education Loan Repayment Program (DELRP)	Children's Medicaid Loan Repayment Program (CMLRP)
<b>Program Description</b>	The National Health Service Corps Loan Repayment Program (NHSC LRP) provides tax free student loan repayment assistance to primary care medical, dental and mental health clinicians in exchange for service at an approved site in a Health Professional Shortage Area (HPSA).	The J-1 visa waiver program makes recommendations for the waiver of a J-1 physician's two year return home requirement in exchange for three years of service in a designated shortage area.	The Physician Education Loan Repayment Program (PELRP) provides loan repayment funds to physicians who agree to practice in a Health Professional Shortage Area (HPSA), and provide health care services to recipients enrolled in Medicaid, and the TX Children's Health Insurance Program (CHIP).	The Dental Education Loan Repayment Program (DELRP) provides loan repayment funds to general and pediatric dentists who agree to practice in a Dental Health Professional Shortage Area (HPSA).	The Children's Medicaid Loan Repayment Program (CMLRP) provides student loan repayment assistance to physicians and dentists who provide services to children on Medicaid
<b>Eligibility Requirements</b>	<p>US Citizen or National</p> <p>Appropriate degree, license or certification, and work experience as applicable for discipline (see Application &amp; Program Guidance at <a href="http://nhsc.hrsa.gov/loanrepayment/pdf/2011nhsclrpguidance.pdf">http://nhsc.hrsa.gov/loanrepayment/pdf/2011nhsclrpguidance.pdf</a>)</p> <p>Accept Medicaid, Medicare, &amp; SCHIP as full payment</p> <p>Not deny service based on ability to pay</p> <p>Work full-time at an approved NHSC site</p> <p>No concurrent service obligation</p> <p>Have not ever defaulted on a federal or state obligation</p>	<p>Currently or formerly holding a J-1 visa</p> <p>Successful completion of Residency or Fellowship program</p> <p>Current unrestricted license, or have made application for license</p> <p>For additional eligibility requirements: <a href="http://www.dshs.state.tx.us/chip/Policy_Manual_updated_October_2009.pdf">http://www.dshs.state.tx.us/chip/Policy_Manual_updated_October_2009.pdf</a></p>	<p>Have full physician license with no restrictions from the Texas Medical Board</p> <p>Must provide care to Medicaid &amp; CHIP enrollees</p> <p>No concurrent service obligation</p> <p>Have eligible outstanding student loans.</p> <p>Must be Board Eligible in years 1 – 3 and Board Certified in a primary care specialty by year 4</p> <p>Must provide four consecutive years of services in a HPSA in Texas</p>	<p>Current unrestricted license</p> <p>Work in an eligible site</p> <p>Practice in an approved specialty</p> <p>Accept Medicaid as full payment</p> <p>Have eligible outstanding student loans</p> <p>Not deny service based on ability to pay</p> <p>No concurrent service obligation</p> <p>Must provide one year of service services in a HPSA in Texas</p>	<p>Have a license from the appropriate licensing board</p> <p>Subspecialists must have board certification or <u>be eligible to sit for the applicable subspecialty board.</u></p> <p>Have a Medicaid number before applying</p> <p>Have eligible outstanding student loans</p> <p>No concurrent service obligation</p> <p>Must agree to provide services for 4 consecutive years and meet the appropriate target number of Medicaid visits</p> <p>Must enroll as a Texas</p>

	<b>National Health Service Corps (NHSC)</b>	<b>Conrad 30 J-1 Visa Waiver Program</b>	<b>Physician Education Loan Repayment Program (PELRP)</b>	<b>Dental Education Loan Repayment Program (DELRP)</b>	<b>Children's Medicaid Loan Repayment Program (CMLRP)</b>
					Health Steps provider
<b>Eligible Sites</b>	Must practice in an NHSC approved site located in a Designated Health Professional Shortage Area (HPSA)	Must practice in a designated health provider shortage area All FQHCs and FQHC look alike qualify Site that meet the Flex 10 option requirements	Must practice in a designated HPSA or MHPSA in Texas at the time of application	Designated DHPSA in TX Federally Funded Community Health Center	Site location is not an eligibility criterion. However, it is used as a scoring variable.  Scoring criteria are available on the DSHS web at: <a href="http://www.dshs.state.tx.us/hpr/CMLRP.shtm">http://www.dshs.state.tx.us/hpr/CMLRP.shtm</a>
<b>Application Cycles and Deadline</b>	Applications are currently being accepted in cycles. Contact NHSC for current application deadlines	Applications are accepted beginning the first week of September each year and close once all 30 slots have been filled	Applications are currently accepted year-round and processed quarterly.	Applications are currently accepted and processed year-round.	Application accepted year-round. The 2011 deadline is August 1, 2011 for service beginning September 1, 2011.
<b>Service Obligation</b>	2-year minimum; may extend for 1-year periods after initial obligation completed. Full time and half time options for 2 or 4 years available.	3 year minimum	4 consecutive years with a service start date being the last day of the state fiscal year quarter  (Nov/Feb/May/Aug)	12 consecutive months, beginning the date full the application is received, or the date service begins, whichever is later.  May renew annually.	4 consecutive years beginning September 1st of the year accepted into the program
<b>Approved Specialties</b>	<b>Allopathic or Osteopathic Physician</b> <b>Family Medicine</b> <b>General Pediatrics</b> <b>General Internal Medicine</b> <b>Obstetrics/Gynecology</b> <b>Geriatrics</b> <b>Nurse Practitioner</b>	All primary care and sub specialist physicians, including Psychiatry	Specialty is a ranking criteria, not an eligibility criteria Priority Specialties: Family Practice Osteopathic Family Practice Obstetrics/Gynecology General Internal Medicine General Pediatrics	General Dentistry Pediatric Dentistry	<b>Allopathic or Osteopathic Physician:</b> <b>Any medical specialty, or sub-specialty that provides services to children enrolled in Medicaid.</b>  <b>Dentists:</b> General and Pediatric or sub-specialty that

	<b>National Health Service Corps (NHSC)</b>	<b>Conrad 30 J-1 Visa Waiver Program</b>	<b>Physician Education Loan Repayment Program (PELRP)</b>	<b>Dental Education Loan Repayment Program (DELRP)</b>	<b>Children's Medicaid Loan Repayment Program (CMLRP)</b>
	<b>Certified Nurse-Midwife</b> <b>Physician Assistant</b> <b>General Practice Dentist</b> <b>Registered Clinical Dental Hygienist</b> <b>Mental or Behavioral Health Professional</b> <b>Psychiatrist (MD or DO)</b> <b>Clinical or Counseling Psychologist</b> <b>Licensed Clinical Social Worker</b> <b>Psychiatric Nurse Specialist</b> <b>Marriage &amp; Family Therapist</b> <b>Licensed Professional Counselor</b>		Psychiatry Geriatrics For specialties other than primary care, the Texas Department of State Health Service (DSHS) must determine there is a critical need for the applicant's specialty in the HPSA where the practice is located		provides services to children enrolled in Medicaid.
<b>Maximum Annual Repayment Amount</b>	2-Year Full-Time Repayments: \$30,000 each year for first 2 years (Total \$60,000) Year 3                    \$40,000 Year 4                    \$40,000 Year 5                    \$30,000 Year 6                    \$30,000 Half-time options pay prorated dependent on length of service obligation	N/A	For those with student loan debt of \$160,000 or more Year 1                    \$25,000 Year 2                    \$35,000 Year 3                    \$45,000 Year 4                    \$55,000 Annual amounts pro-rated for debt below \$160,000 Pro-rated pay-outs are available for part-time service	\$10,000 annually Pro-rated amounts are available for part-time service	Up to a total of \$140,000 Year 1 \$20 K or \$40 K Year 2 \$15 K or \$30 K Year 3 \$20 K or \$40 K Year 4 \$15 K or \$30 K Annual payment amounts dependent on the number of verified Medicaid visits
<b>Eligible Loans</b>	Loans for higher education Not in default Not being repaid through another program Not made during residency (for physicians & dentists)	N/A	Loans for higher education; Not in default Not have an existing service obligation Not be subject to repayment through another student loan	Loans for higher education Not in default Not have an existing service obligation Not consolidated with ineligible loans	Loans for higher education Not in default Not have an existing service obligation Not consolidated

	National Health Service Corps (NHSC)	Conrad 30 J-1 Visa Waiver Program	Physician Education Loan Repayment Program (PELRP)	Dental Education Loan Repayment Program (DELRP)	Children's Medicaid Loan Repayment Program (CMLRP)
			repayment or loan forgiveness program Must not be from an insurance policy or pension plan Not made during residency	Must not be from an insurance policy or pension plan	Must not be from an insurance policy or pension plan Not made during residency
<b>Breach of Contract</b>	<p><u>Must Repay:</u></p> <p>All funds received for contract period not completed plus interest</p> <p>Penalty equal to the number of months of obligated service that were not completed, multiplied by \$7,500</p> <p>The repayment amount will not be less than \$31,000</p> <p><i>Breach of a federal contract will affect eligibility of provider to receive federal assistance in the future</i></p>	Reinstatement of two year home residency requirement	Will not receive funds, and will be removed from the program  Will not be eligible to apply for any other loan repayment programs in Texas	Will not receive funds, and will be removed from the program	Will not receive funds, and will be removed from the program  Will not be eligible to apply for any other loan repayment programs in Texas

	National Health Service Corps (NHSC)	Conrad 30 J-1 Visa Waiver Program	Physician Education Loan Repayment Program (PELRP)	Dental Education Loan Repayment Program (DELRP)	Children's Medicaid Loan Repayment Program (CMLRP)
<b>For Additional Information and How to Apply</b>	 <p>TX Primary Care Office            PO Box 149347,            Mail Code 1937            Austin, TX 78714-9347            (512) 458-7518  <a href="mailto:TexasPCO@dshs.state.tx.us">TexasPCO@dshs.state.tx.us</a>  <a href="http://www.TXLRP.org">www.TXLRP.org</a></p>	 <p>TX Primary Care Office            PO Box 149347,            Mail Code 1937            Austin, TX 78714-9347            (512) 458-7518  <a href="mailto:TexasPCO@dshs.state.tx.us">TexasPCO@dshs.state.tx.us</a>  <a href="http://www.TXLRP.org">www.TXLRP.org</a></p>	 <p>TX Primary Care Office            PO Box 149347,            Mail Code 1937            Austin, TX 78714-9347            (512) 458-7518  <a href="mailto:TexasPCO@dshs.state.tx.us">TexasPCO@dshs.state.tx.us</a>  <a href="http://www.TXLRP.org">www.TXLRP.org</a></p>	 <p>TX Primary Care Office            PO Box 149347,            Mail Code 1937            Austin, TX 78714-9347            (512) 458-7518  <a href="mailto:TexasPCO@dshs.state.tx.us">TexasPCO@dshs.state.tx.us</a>  <a href="http://www.TXLRP.org">www.TXLRP.org</a></p>	 <p>TX Primary Care Office            PO Box 149347,            Mail Code 1937            Austin, TX 78714-9347            (512) 458-7518  <a href="mailto:TexasPCO@dshs.state.tx.us">TexasPCO@dshs.state.tx.us</a>  <a href="http://www.TXLRP.org">www.TXLRP.org</a></p>

# Texas Physician Workforce Data

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The following information is derived from *2009 State Physician Workforce Data Book*, Center for Workforce Studies, Association of American Medical Colleges, November 2009.

Texas has:

- 42,649 active patient care physicians, or 175.3 per 100,000 population, ranking 46th among U.S. states
- 16,655 active primary care physicians, or 68.5 per 100,000 population, ranking 47<sup>th</sup>
- 13,433 active female physicians, 27.5% of total physicians, ranking 27<sup>th</sup>
- 19.8% of physicians who are under age 40, and 22.8% of physicians 60 or older with a rank of 29<sup>th</sup>

Texas ranks:

- 26<sup>th</sup> among states for the number of students enrolled in medical and osteopathic school
- 23<sup>rd</sup> in graduate medical education with the number of residents and fellows on duty in accredited programs per 100,000 population
- 30<sup>th</sup> for the number of primary care residents and fellows on duty
- 27<sup>th</sup> for the number of international medical graduates on duty in residency and fellowships
- 2<sup>nd</sup> for the number of graduates state's medical schools who are retained in-state for practice
- 7<sup>th</sup> for number of completers of state's residencies who are active physicians in-state

**Table 1** shows the number of family physicians for 2006 for each state and the nation, projections of the number of family physicians that will be needed in 2020, and projected percent increase. For example, Texas had 6,661 family physicians in 2006 and is projected to need 10,091 family physicians in 2020, which is an increase of 51.5 percent. Nationally, the number of family physicians needs to increase from 100,431 to 139,531, which is a 38.9 percent increase.

**Table 1**  
**Number of Family Physicians by State and Total U.S. for 2006 and 2020 Projected Need\* and Projected Percent Increase**

State	2006	2020	Projected Increase	State	2006	2020	Projected Increase
AL	2,248	2,912	29.5%	MT	300	413	37.7%
AK	208	302	45.2%	NE	525	666	26.9%
AZ	1,773	3,114	75.6%	NV	895	1,599	78.7%
AR	1,322	1,781	34.7%	NH	412	593	43.9%
CA	10,560	15,181	43.8%	NJ	2,680	3,551	32.5%
CO	1,421	1,989	40.0%	NM	611	851	39.3%
CT	1,118	1,447	29.4%	NY	5,856	7,345	25.4%
DE	290	416	43.4%	NC	3,206	4,777	49.0%
DC	330	346	4.8%	ND	195	242	24.1%
FL	7,035	11,497	63.4%	OH	4,031	5,031	24.8%
GA	2,919	4,302	47.4%	OK	1,463	1,896	29.6%
HI	393	530	34.9%	OR	1,105	1,595	44.3%
ID	408	615	50.7%	PA	5,253	6,652	26.6%
IL	3,723	4,747	27.5%	RI	335	438	30.7%
IN	2,077	2,691	29.6%	SC	1,867	2,639	41.3%
IA	913	1,142	25.1%	SD	236	303	28.4%
KS	825	1,064	29.0%	TN	2,650	3,692	39.3%
KY	1,844	2,409	30.6%	<b>TX</b>	<b>6,661</b>	<b>10,091</b>	<b>51.5%</b>
LA	2,249	2,879	28.0%	UT	682	1,017	49.1%
ME	438	589	34.5%	VT	201	277	37.8%
MD	1,794	2,529	41.0%	VA	2,287	3,302	44.4%
MA	1,974	2,565	29.9%	WA	1,872	2,758	47.3%
MI	3,226	4,165	29.1%	WV	893	1,098	23.0%
MN	1,542	2,153	39.6%	WI	1,696	2,268	33.7%
MS	1,631	2,102	28.9%	WY	159	211	32.7%
MO	2,099	2,764	31.7%	<b>U.S.</b>	<b>100,431</b>	<b>139,531</b>	<b>38.9%</b>

SOURCE: American Academy of Family Physicians, Family Physician Workforce Reform, 2006 (www.aafp.org [February 2009]).

\*Projected by Needs-Based Model, based on U.S. Census Bureau projections and adjusted for socioeconomic index and premature mortality rate, to achieve a ratio of 41.6 family physicians per 100,000 U.S. population.

# National Health Trends

The health care sector is an extremely fast-growing sector in the United States, and based on the current demographics, there is every reason to expect this trend to continue. Data in **Table 1** provide selected expenditure and employment data for the United States. Several highlights from the national data are:

- In 1970, health care services as a share of the national gross domestic product (GDP) were 7.2 percent and increased to 16.2 percent in 2008;
- Employment in the health sector increased 341.3 percent from 1970 to 2008; and
- Annual increases in employment from 2003 to 2008 ranged from 2.0 percent to 4.0 percent.

In addition, the Bureau of Labor Statistics projects substantial increases in health care expenditures from 2009 through 2019. In fact, the U. S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, predicts that health care expenditures will account for 18.7 percent of GDP by 2016 and increase to 19.6 percent of GDP in 2019. Per capita health care expenditures are projected to increase to \$11,625 in 2016 and to \$13,653 in 2019. Total health expenditures are projected to increase to almost \$4.6 trillion in 2019.

**Table 1**  
**United States Health Expenditures and Employment Data**  
**1970-2008; Projected for 2010, 2013, 2016 & 2019**

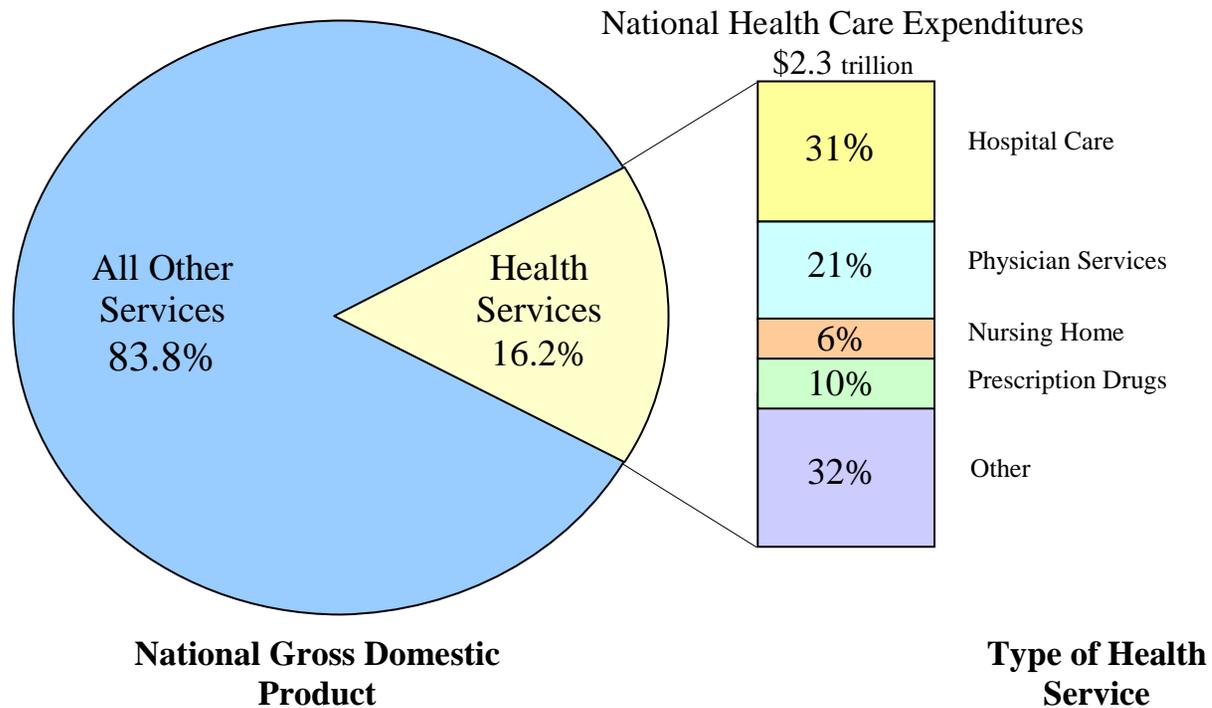
Year	Total Health Expenditures (\$Billions)	Per Capita Health Expenditures (\$)	Health as % of GDP (%)	Health Sector Employment (000)	Avg. Annual Increase in Employment (%)
1970	\$74.90	\$356	7.20%	3,052	<sup>a</sup>
1980	253.4	1,100	9.10%	5,278	<sup>a</sup> 7.30%
1990	714.1	2,814	12.30%	7,814	<sup>a</sup> 4.80%
2000	1,352.90	4,789	13.60%	10,858	<sup>a</sup> 3.90%
2001	1,469.20	5,150	14.30%	11,188	<sup>a</sup> 3.00%
2002	1,602.40	5,564	15.10%	11,536	<sup>a</sup> 3.10%
2003	1,735.20	5,973	15.60%	11,817	<sup>b</sup> N/A
2004	1,855.40	6,328	15.60%	12,055	<sup>b</sup> 2.00%
2005	1,982.50	6,701	15.70%	12,314	<sup>b</sup> 2.10%
2006	2,112.50	7,071	15.80%	12,602	<sup>b</sup> 2.30%
2007	2,239.70	7,423	15.90%	12,946	<sup>b</sup> 2.70%
2008	2,338.70	7,681	16.20%	13,469	<sup>b</sup> 4.00%
<b>Projections</b>					
2010	2,600.20	8,389	17.50%		
2013	3,024.80	9,505	17.30%		
2016	3,795.90	11,625	18.70%		
2019	4,571.50	13,653	19.60%		

SOURCES: Bureau of Labor Statistics ([www.bls.gov](http://www.bls.gov) [January 2011]); U.S. Department of Health & Human Services, Centers for Medicare & Medicaid Services, National Health Expenditures 1970-2008 and National Health Expenditure Projections 2009-2019 (<http://www.cms.hhs.gov/nationalhealthexpenddata> [January 2011]).

N/A - Not Available.  
<sup>a</sup> Based on Standard Industrial Classification (SIC) codes for health sector employment.  
<sup>b</sup> Based on North American Industrial Classification System (NAICS) for health sector employment.

**Figure 1** illustrates 2008 health expenditures by percent of GDP and by type of health service. Health services represented 16.2 percent of national GDP in 2008. The largest category of health services was hospital care, representing 31.0 percent of the total and the second largest category was physician services with 21.0 percent of the total.

**Figure 1. National Health Expenditures as a Percent of Gross Domestic Product and by Health Service Type, 2008**



# Health Professional Shortages Areas and Physician Scarcity Areas: A Brief Overview

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Currently, the federal government is reviewing the shortage and scarcity area designations and the incentive bonuses; therefore, the information presented here may be subject to change in the near future. The source information is given at the end of this section for your convenience in determining any changes in the future. This document presents the current basic information on the bonus payments available for **Health Professional Shortage Areas (HPSA)** and **Physician Scarcity Areas (PSA)**. These are designations by the federal government indicating a lack of health professionals to care for the area’s population. It provides those in the health care sector (physicians, health care providers, hospital administrators, state agencies, and offices/staff) a better understanding of the services, individuals, and geographic areas that are eligible for these incentive payments. This information can be used to ensure that maximum bonus payments are received or to assist organizations, hospitals, and individuals in planning the expansion of medical services.

**Health Professional Shortage Areas (HPSAs)** are designated by the Health Resources Services Administration (HRSA) as having shortages of primary medical care, dental, or mental health providers. These areas may encompass urban or rural areas, population groups, or medical or other public facilities.

## What are HPSA/PSA and who is Eligible to Receive the Bonuses?

Two distinct types of quarterly incentive bonuses are currently available to eligible health care providers in certain qualified areas for specific Medicare services rendered. Known as **Health Professional Shortage Area (HPSA)** and **Physician Scarcity Area**

**(PSA)** bonus payments, these two incentive programs were created by Congress out of concern that low Medicare payment rates could cause access problems for Medicare beneficiaries. They provide 10% and 5% bonuses, respectively, as a way to recruit and retain both primary care and specialist physicians who provide services to Medicare beneficiaries in certain qualified areas. The bonuses also encourage providers to see patients whose primary form of insurance is Medicare. **Table 1** reflects the list of health care professionals eligible to receive the HPSA shortage designation bonus, while **Table 2** provides a list of primary and specialty care physicians eligible for the PSA bonus (along with physicians for whom the PSA bonus is not available). **Table 3** is an overview of the designations.

**Table 1 Health Care Professionals Eligible for HPSA Bonus Payment \***

<b>Primary Care Physicians</b>	<b>Specialty Care Physicians</b>	<b>Not Eligible</b>
General Practice, Family Practice, Internal Medicine, OB-GYN	All physicians other than primary care	Chiropractors, Optometrists, Podiatrists, Dentists

SOURCE: Social Security Act, Title 18, Section 1861(r), Bureau of Health Professions. \*While the physicians listed in **Table 1** are the dominant recipients of HPSA payments, other health care professions may be eligible according to the letter of the law and state licensure requirements. These include licensed Chiropractors, Optometrists, Podiatrists, and Dentists. Interested parties should check with their CMS provider.

**Table 2. Physicians Eligible for PSA Bonus Payment  
(Includes DOs and MDs)**

<b>Primary Care Physicians</b>	<b>Specialty Care Physicians</b>	<b>Not Eligible</b>
General Practice, Family Practice, Internal Medicine, OB-GYN	All physicians other than primary care	Chiropractors, Optometrists, Podiatrists, Dentists

**Table 3. Overview of HPSA/PSA Designations**

<b>Program</b>	<b>HPSA</b>	<b>PSA</b>
Types of Providers  (Size of Incentive Bonus)	<ul style="list-style-type: none"> <li>· Geographic-based                             <ul style="list-style-type: none"> <li>· Primary Care (10%)</li> <li>· Mental Health (10%)</li> <li>· Dental Care (0%)</li> </ul> </li> <li>· Demographic-based                             <ul style="list-style-type: none"> <li>· No incentive bonus</li> </ul> </li> <li>· Institution-based                             <ul style="list-style-type: none"> <li>· No incentive bonus</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>· Geographic Based                             <ul style="list-style-type: none"> <li>· Primary Care (5%)</li> <li>· Specialty Care (5%)</li> </ul> </li> </ul>

SOURCE: Whitacre, B.E., Doeksen, G. A., Peton, A., and Brown, M., "Health Professional Shortage Areas (HPSAs) and Physician Scarcity Areas (PSAs) Bonus Payments for Health Care Professionals," Oklahoma Rural Health Works, February 2008.

**Additional information on both HPSAs and PSAs is available from the Center for Medicare and Medicaid Services (CMS). The CMS website is [www.cms.hhs.gov](http://www.cms.hhs.gov). The following resources address this issue in more detail:**

- Centers for Medicare and Medicaid Services (CMS). (2006). HPSA / PSA (Physician Bonuses) Overview. Retrieved November 1, 2006 from the CMS website: <http://www.cms.hhs.gov/hpsapsaphysicianbonuses>.
- The Centers for Medicare and Medicaid Services (CMS). (2005). Publication 100-04 / Medicare Claims Processing Manual, Chapter 12, Section 90. Retrieved November 15,

2006 from the CMS website:

<http://www.cms.hhs.gov/Manuals/IOM/list.asp>.

- Centers for Medicare and Medicaid Services (CMS). (2004). Physician Education for the Revisions to the Health Professional Shortage Areas (HPSA) Bonus Payment Process and Implementation of the Physician Scarcity Area (PSA) Bonus Payments. Retrieved November 7, 2006, from CMS website: <http://www.cms.hhs.gov/MLN MattersArticles/downloads/S E0449.pdf>.
- Centers for Medicare and Medicaid Services (CMS). (2005). MMA – Implementation of the Physician Scarcity Area (PSA) Bonus and Revision to the Health Professional Shortage Area (HPSA) Payment to a Critical Access Hospital (CAH). Retrieved November 9, 2006, from CMS website: <http://www.cms.hhs.gov/MLN MattersArticles/downloads/M M3790.pdf>.

# Rural Health Clinics and Federally Qualified Health Clinics: A Brief Overview

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The **Rural Health Clinics (RHCs)** program is intended to increase primary care services for Medicaid and Medicare patients in rural communities. RHCs can be public, private, or non-profit. The main advantage of RHC status is enhanced reimbursement rates for providing Medicaid and Medicare services in rural areas. RHCs must be located in rural, underserved areas and must use mid-level practitioners. A Rural Health Clinic is a clinic certified to receive special Medicare and Medicaid reimbursement. The purpose of the RHC program is improving access to primary care in underserved rural areas. RHCs are required to use a team approach of physicians and midlevel practitioners such as nurse practitioners, physician assistants, and certified nurse midwives to provide services. The clinic must be staffed at least 50% of the time with a midlevel practitioner.

RHCs receive special Medicare and Medicaid reimbursement. Medicare visits are reimbursed based on allowable costs and Medicaid visits are reimbursed under the cost-based method or an alternative Prospective Payment System (PPS). Ordinarily, this will result in an increase in reimbursement. RHCs may see improved patient flow through the utilization of NPs, PAs and CNMs, as well as more efficient clinic operations.

**A Federally Qualified Health Center (FQHC)** is a type of provider defined by the Medicare and Medicaid statutes. FQHCs include all organizations receiving grants under Section 330 of the Public Health Service Act, certain tribal organizations, and FQHC Look-Alikes. FQHCs are also referred to as Community Health Centers (CHCs). An FQHC Look-Alike is an organization that meets all of the eligibility requirements of an organization that receives a Public Health Service (PHS) Section 330 grant, but does not receive grant

funding. Section 330 of the PHS Act defines federal grant funding opportunities for organizations to provide care to underserved populations. Types of organizations that may receive 330 grants include: Community Health Centers, Migrant Health Centers, Health Care for the Homeless Programs, and Public Housing Primary Care Programs.

There are location requirements for FQHCs. Each FQHC that receives PHS 330 grant funding must meet the requirements of that grant. Community Health Centers must serve a Medically Underserved Area (MUA) or Medically Underserved Population (MUP). To determine if your area qualifies, you can search the MUA/MUP database. If an area does not have the MUA/MUP designation they can apply for it and can put in an application for a PHS Section 330 grant while the designation is being processed. For additional information regarding the MUA/MUP designation, contact the Shortage Designation Branch: [sdb@hrsa.gov](mailto:sdb@hrsa.gov) or 1-888-275-4772. Migrant Health Centers, Health Care for the Homeless, and Public Housing Primary Care Programs do not need to meet the MUA/MUP restriction. FQHCs may be located in rural and urban areas.

FQHCs must provide primary care services for all age groups. FQHCs must provide preventive health services on site or by arrangement with another provider. Other requirements that must be provided directly by an FQHC or by arrangement with another provider include dental services, mental health and substance abuse services, transportation services necessary for adequate patient care, and hospital and specialty care.

SOURCE: Rural Assistance Center, Office of Rural Health Policy, Health Resources and Services Administration, U.S. Department of Health and Human Services ([www.raconline.org](http://www.raconline.org)).

# National Health Service Corps: A Brief Overview

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**National Health Service Corps (NHSC)** is committed to improving the health of the Nation's underserved, one community at a time. NHSC brings together communities in need with caring health professionals and supports their efforts to build better systems of care.

NHSC is a network of 7,000 primary health care professionals and 10,000 sites as of September 30, 2009, working in underserved communities across the country. To support their service, the NHSC provides clinicians with financial support in the form of loan repayment and scholarships.

NHSC members are required to practice full-time for at least two years in a NHSC-approved site. Approved sites are located across the country in Health Professional Shortage Areas (HPSAs). Corps members are required to engage in full-time clinical practice of the profession for which they were awarded a NHSC loan repayment award, at their approved site. Corps members may receive up to \$145,000 in loan repayment for completing a five-year service commitment. The program starts with an initial award of \$50,000 for two years of service.

Many types of health care facilities are NHSC-approved sites. About half of Corps members serve in federally-supported health centers. Other approved sites are described below.

Clinicians in NHSC practice where they are needed most. The communities NHSC serves are as widespread and varied as the landscape of our Nation. NHSC can be found in inner cities, farm towns, mountain villages, and migrant communities. NHSC recruits health professionals committed to serving underserved populations, wherever they are.

## NHSC-Approved Sites

NHSC can make your community in a Health Professional Shortage Area (HPSA) healthier by helping you recruit and retain qualified health care clinicians who care about underserved people and choose to work where they are needed most. Federally qualified health centers, rural health clinics, and other sites that care for low-income and uninsured people can become NHSC-approved sites where dentists, dental hygienists, primary care physicians, nurse practitioners, certified nurse midwives, physician assistants, and mental health professionals who are eligible for loan repayment funding or have received scholarships can fulfill their service obligation.

### Eligibility to become NHSC-Approved Site

To become an NHSC-Approved Site, the following criteria must be met:

- ✓ Located in a HPSA
- ✓ Provides services on a discount fee schedule
- ✓ Accepts patients covered by Medicare, Medicaid, and the Children's Health Insurance Program
- ✓ Can document sound fiscal management
- ✓ Has capacity to maintain a competitive salary, benefits, and malpractice coverage package for clinicians
- ✓ Could be any of the following:
  - Federally Qualified Health Center
  - Center or Look-Alike Certified Rural Health Clinic
  - Indian Health Service Site (Federal or Tribal)
  - Solo or Group Partnership or Practice
  - Hospital-Affiliated Primary Care Practice
  - Managed Care Network
  - State or Federal Prison

- U.S. Immigration, Customs and Enforcement Site
- Public Health Department

**Benefits of Becoming NHSC-Approved Site**

- List clinician vacancies on NHSC Job Opportunities
- Recruit clinicians dedicated to working where they are needed most
- Recruit students and residents
- Develop linkages with academic institutions and other organizations
- Receive community and site development assistance
- Network with other NHSC sites
- Maximize revenue from Federal programs such as the Rural Health Clinic and Federally Qualified Health Center programs
- Identify ways to support uncompensated care through other grant programs (State and/or Federal) to ensure that your site remains fiscally sound
- Establish an integrated system of care that includes the uninsured and underinsured

**NHSC Scholarship Program**

NHSC scholarships pay tuition, required fees, and some other education costs, tax free, for as many as four years. Education costs may include books, clinical supplies, laboratory expenses, instruments, two sets of uniforms and travel for one clinical rotation. Recipients also receive a monthly living stipend (\$1,289 in 2010-2011). The stipend is taxable.

**Who is Eligible?**

- ✓ U.S. Citizen or national
- ✓ Enrolled or accepted for enrollment
- ✓ Pursuing an eligible degree in an accredited program located in the U.S. (joint programs that provide dual degrees are not eligible):
  - Physician: MD or DO

- Dentist: DDS or DMD
- Family Nurse Practitioner: master's degree or post-master's certificate
- Certified Nurse-Midwife: master's degree or post-master's certificate
- Physician Assistant: associate, bachelor's or master's degree

**What is the Service Commitment?**

NHSC scholars are committed to serve one year for each year of support (minimum of two years service) at an approved site in a high-need Health Professional Shortage Area soon after they graduate, serve a primary care residency (family medicine, general pediatrics, general internal medicine, obstetrics/gynecology or psychiatry for physicians and general or pediatric for dentists) and are licensed. Scholars compete for employment at the approved service sites of their choice from a listing of job vacancies in their discipline and specialty. The NHSC helps scholars select a compatible service site and pays for travel to and from interviews.

**Where do Scholars Serve?**

Many types of health care facilities are approved NHSC sites. About half of NHSC scholars fulfill their service commitment at Federally-supported health centers. Health center clinicians can be granted medical malpractice liability protection through the Federal Tort Claims Act. Other types of NHSC approved sites are discussed in detail in the above section “Eligibility to Become a NHSC-Approved Site.”

Scholars negotiate their salaries with the employing site, but the NHSC requires that they be paid at least as much as they would in an equivalent Federal civil service position. A few scholars serve in an established private practice in a high-need Health Professional Shortage Area. These arrangements must be approved by the NHSC and scholars working in them are not protected by the NHSC minimum salary requirement.

All NHSC approved sites accept Medicare, Medicaid and provide services on a sliding fee scale or other method that enables poor and uninsured patients to receive care whether or not they are insured or able to pay.

Sites that have applied to and been approved by the NHSC post vacancies on NHSC Job Opportunities. Sites that list vacancies for scholars must be located in the neediest Health Professional Shortage Areas (this year, a HPSA score of 17 or higher, depending on discipline and specialty).

Scholars fulfill their service commitments by providing full time clinical care (at least 40 hours each week), with at least 32 of those hours in the ambulatory care setting. (Except obstetricians/gynecologists, certified nurse-midwives, and family practitioners who practice obstetrics on a regular basis, who must work in outpatient clinical practice at least 21 hours per week with delivery and other clinical hospital-based duties making up the remaining 19 hours).

### **Ambassadors**

Ambassadors help recruit students and clinicians to the NHSC. Ambassadors serve as a catalyst to motivate students and clinicians to provide primary health care in underserved communities across

the country where many Americans lack adequate access to care.

If you are a faculty member or a health care professional interested in educating students and clinicians about the benefits of the NHSC and the rewards that come with providing services to those most in need, become an NHSC ambassador.

If you are interested in knowing more about being a NHSC ambassador or would like an ambassador to speak at an event please send a message to [nhscAmbassador@hrsa.gov](mailto:nhscAmbassador@hrsa.gov) and a NHSC representative will contact you.

For more information on how you can get involved, call the NHSC toll-free help line or visit the NHSC website.

**National Health Service Corps**  
**Toll-Free Help Line:**  
**1-800-221-9393**  
**<http://www.nhsc.hrsa.gov/>**

SOURCE: The National Health Service Corps, U. S. Department of Health and Human Services, Health Resources and Services Administration (HRSA) (<http://www.nhsc.hrsa.gov/> [September 2010]).