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**Texas Primary Care and the Affordable Care Act:
Implications for the Primary Care Physician Workforce**

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by

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Abstract

Texas Primary Care and the Affordable Care Act: Implications for the Primary Care Physician Workforce

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The University of Texas at Austin, 2012

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Primary care physicians are the first point of contact for patients entering the formal health care system. A shortage of primary care physicians in the United States has left approximately 60 million people without adequate access to a physician, resulting in lowered health care outcomes and excess stress on the health care safety net. Texas has one of the most severe shortages of primary care physicians with more than 5.7 million people living in rural and urban areas considered to be underserved. The state's rapid population growth, as well as the wide geographic distribution of its residents, makes it particularly vulnerable to health care disparities. Although there is a decisive need, factors like high medical school debt and low anticipated salaries are leading more students to specialize instead of pursue a primary care career. A variety of solutions have been proposed to address this problem including: rethinking the physician reimbursement structure; expanding graduate medical education opportunities for primary care students; and incentivizing primary care with loan repayment. In 2014, the new insurance

exchanges created by the Patient Protection and Affordable Care Act will begin operating, giving millions more Texans access to health insurance. The current Texas primary care physician workforce shortage will be exacerbated once the major components of the Patient Protection and Affordable Care Act are fully enacted; therefore, state policymakers must take steps to increase Texas' primary care physician workforce by making primary care a more attractive and accessible career path for medical students.

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Introduction

The Institute of Medicine defines primary care as “the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.”¹ Primary care is the cornerstone of a successful health care system. Primary care physicians represent the first point of contact for patients entering the health care system and are also responsible for coordinating care for their patients, whether that be by making referrals to specialists, managing concurrent diagnoses or advising on wellness. Robust primary care services are correlated with positive patient outcomes and lower overall health care costs. In the United States, for each additional primary care physician in practice, there are 1.44 fewer deaths per 10,000 persons.² Additionally, patients with a regular primary care physician have lower health care costs than those without a physician.³

According to the World Health Organization (WHO), among countries with similar levels of economic development, those basing their health care systems on the tenets of primary health care produce higher degrees of health for their citizens at the

¹ Council on Graduate Medical Education, *Advancing Primary Care 20*, p.9, <http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/twentiethreport.pdf>.

² Ibid, p.4.

³ Ibid.

same cost as those that do not.⁴ The United States spends more than any other developed nation on health care, and health care spending represents a significant portion of the gross domestic product (GDP).⁵ However, despite the significant investment, U.S. patient outcomes are some of the poorest when compared to commonly used benchmarks.⁶ The WHO characterizes the current American health care model as disease-focused, placing too much emphasis on using advanced technology and specialty care to make diagnoses rather than stressing the importance of prevention.⁷ The physician workforce reflects these priorities with specialists significantly outnumbering primary care physicians.⁸ Only 37% of all American physicians practice primary care, and over the past decade, graduate medical education has produced 24% fewer primary care physicians than in years past.⁹ The lower salaries and reimbursement rates characteristic of primary care, coupled with large amounts of student debt, have resulted in a waning interest amongst medical students.¹⁰ This imbalance has created a significant national shortage of primary care physicians, limiting access to primary care for 60 million underserved people, 20% of whom do not have health insurance.¹¹

⁴ The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce: What Influences Medical Student & Resident Choices?*, p. xi. <http://www.graham-center.org/online/etc/medialib/graham/documents/publications/mongraphs-books/2009/rgcmo-specialty-geographic.Par.0001.File.tmp/Specialty-geography-compressed.pdf>.

⁵ Tom Banning, interview by author, Texas Academy of Family Physicians, March 15, 2012.

⁶ Ibid.

⁷ The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce*, p. xi.

⁸ Jonathan Nelson, interview by author, Texas Academy of Family Physicians, March 15, 2012.

⁹ Council on Graduate Medical Education, *Advancing Primary Care* 20, p.9; Kaiser Family Foundation, "Primary Care Shortage," [kaiseredu.org](http://www.kaiseredu.org/Issue-Modules/Primary-Care-Shortage/Background-Brief.aspx), last modified April 2011, <http://www.kaiseredu.org/Issue-Modules/Primary-Care-Shortage/Background-Brief.aspx>.

¹⁰ Council on Graduate Medical Education, *Advancing Primary Care* 20, p.9.

¹¹ Kaiser Family Foundation, "Primary Care Shortage."

In 2014, the health insurance exchange established by the Patient Protection and Affordable Care Act (PPACA) is expected to make health insurance available to more than 30 million additional Americans with 16 million Americans entering the health care delivery system by 2014.¹² An influx this size of healthy patients would adversely affect that health care system. However, the people entering the PPACA insurance exchange are not typical health care consumers. The mechanisms by which the PPACA extends insurance benefits include preventing insurance companies from denying coverage to those with pre-existing conditions and increasing the Medicaid eligibility criteria. Therefore, a large proportion of the newly insured will be poorer and sicker than the average American, making a robust primary care physician workforce extremely important.

Few states are experiencing a more severe primary care physician workforce shortage than Texas. According to the Association of American Medical Colleges' *2011 State Physician Workforce Data Book*, Texas ranks 48th in ratio of primary care physicians to state residents.¹³ There are many barriers unique to Texas that make ensuring equal access to health care particularly difficult, including the size of the service area and the rapidly growing population.¹⁴ The current Texas primary care physician workforce shortage will be exacerbated once the major components of the Patient

¹² Association of American Medical Colleges, "The Impact of Health Care Reform on the Future Supply and Demand for Physicians Updated Projections Through 2025," Association of American Medical Colleges, https://www.aamc.org/download/158076/data/updated_projections_through_2025.pdf; Kaiser Family Foundation, "Primary Care Shortage."

¹³Center for Workforce Studies, *2011 State Physician Workforce Data Book*, p.3, https://www.aamc.org/download/.../data/state_databook_update.pdf.

¹⁴ Connie Berry, interview by author, Texas Primary Care Office, March 26, 2012.

Protection and Affordable Care Act are fully enacted; therefore, state policymakers must take steps to increase Texas' primary care physician workforce by making primary care a more attractive and accessible career path for medical students.

Chapter 1: Primary Care in Texas

MEASURING NEED

In the United States, the average ratio of primary care physicians to residents is approximately 80 per 100,000; Texas' average is about 62 per 100,000.¹⁵ A majority of the geographic area of Texas is considered by the federal government to be experiencing a critical shortage of health care access. Nationwide statistics measuring access to health care services are maintained by the Office of Shortage Designation, an entity within the Health Resources and Services Administration (HRSA).¹⁶ The Health Resources and Services Administration measures need by designating areas of the country as Health Professional Shortage Areas (HPSAs), a classification given to a geographic area, a specific population group or a health care facility that faces barriers to access to primary care, dental or mental health care services.¹⁷ Health Professional Shortage Area designations were first used in 1978 to place physicians in the National Health Service Corps (NHSC); however, they are now used by a variety of federal programs to make important decisions regarding federal grant and aid distribution.¹⁸ The majority of Texas primary care HPSA designations are geographic; in this study I will focus on the

¹⁵Center for Workforce Studies, *2011 State Physician Workforce Data Book*, p.3.

¹⁶ Health Resources and Services Administration, *Designated Health Professional Shortage Areas Statistics*, p.1, <http://bhpr.hrsa.gov/shortage/>

¹⁷ Health Resources and Services Administration, "Shortage Designation: Health Professional Shortage Areas & Medically Underserved Areas/Populations," Health Resources and Services Administration, <http://bhpr.hrsa.gov/shortage/index.html>.

¹⁸ Missouri Dept. of Health and Senior Services, "HPSA Frequently Asked Questions," Missouri Dept. of Health and Senior Services, <http://health.mo.gov/living/families/primarycare/faq.php>.

implications of geographic primary care HPSAs and the barriers to health care access that they illustrate.

Designations are made according to guidelines that vary depending on the type of HPSA being evaluated. To qualify as a geographic primary care HPSA, a geographic area must meet the three following criteria: the area in question is a rational service area, such as a county or a partial county; the population to physician ratio is 3500: to 1; and physicians in the area are over utilized or excessively difficult access.¹⁹ For HPSA designations, physicians considered to practice primary care are those practicing: internal medicine, OB/GYN, pediatrics, general medicine and family practice.²⁰ Based on these criteria, a HPSA score between 0 and 25 is assigned to the designation with higher scores representing a greater need for primary care.²¹

While HRSA sets the federal guidelines, state Primary Care Offices are in charge of considering all state HPSA applications. Texas has a total of 380 HPSA designations, second only to California (see Figure 1).²² More than 5.9 million Texans reside within these HPSA designations; however, a more staggering statistic is the number of Texans who are currently considered to be unserved by a primary care physician.²³ HRSA considers HPSA designations with a physician to patient ratio of 2000:1 or higher to be

¹⁹ Health Resources and Services Administration, "Primary Medical Care HPSA Designation Overview," Health Resources and Services Administration, <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primarycarehpsaoverview.html>.

²⁰ Missouri Dept. of Health and Senior Services, "HPSA Frequently Asked Questions."

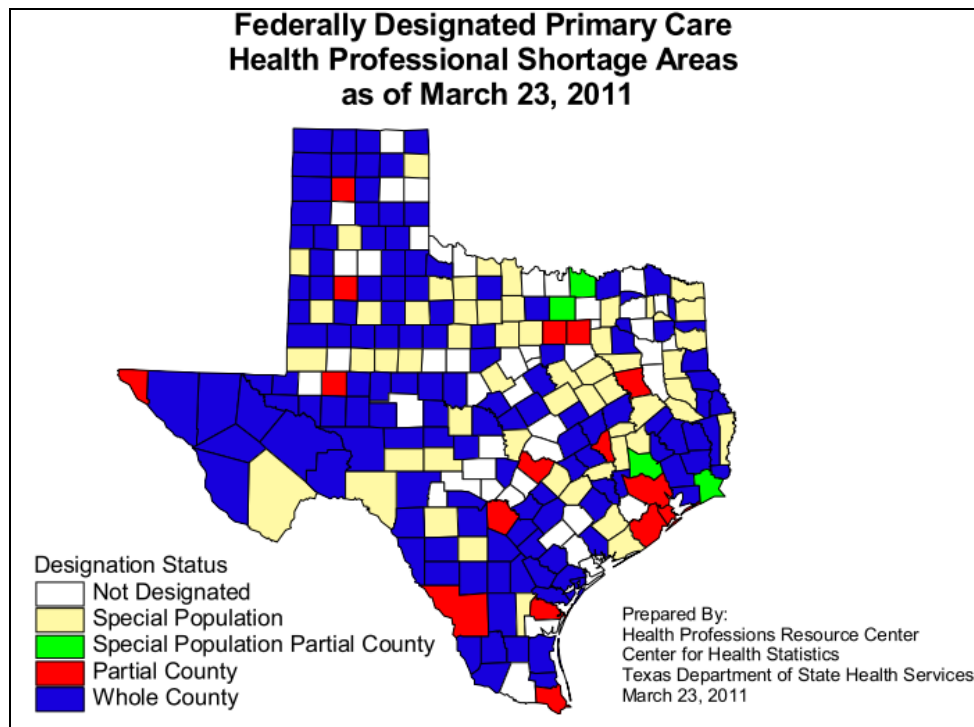
²¹ Missouri Dept. of Health and Senior Services, "HPSA Frequently Asked Questions."

²² Health Resources and Services Administration, *Designated Health Professional Shortage Areas Statistics*, p.2.

²³ Health Resources and Services Administration, *Designated Health Professional Shortage Areas Statistics*, p.2.

unserved areas.²⁴ In Texas, over 3.2 million people reside within designated areas considered to be completely unserved by primary care physicians.²⁵

Figure 1: Texas Primary Care Health Professional Shortage Areas²⁶



FACTORS EXACERBATING THE TEXAS PRIMARY CARE PHYSICIAN WORKFORCE SHORTAGE

When compared with the rest of the country, Texas faces some unique challenges that make it particularly difficult to provide primary care to its residents that can be

²⁴ Health Resources and Services Administration, *Designated Health Professional Shortage Areas Statistics*, p.2.

²⁵ Health Resources and Services Administration, *Designated Health Professional Shortage Areas Statistics*, p.2.

²⁶ "Federally Designated Primary Care Health Professional Shortage Areas as of March 23, 2011," map, Texas Department of State Health Services, <http://www.dshs.state.tx.us/chs/hprc/hpsa.shtm>.

largely attributed to the state's rapid population growth. Texas' population is growing faster than the national average and is predicted to reach more than 50 million people by 2040.²⁷ Between 2000 and 2010, Texas' population grew by more than 20%, much faster than the national average of just below 10%.²⁸ Both rural and urban populations are growing: according to the 2010 census, Texas' metropolitan counties grew by 23% and nonmetropolitan counties grew by 5%.²⁹

Demographic Challenges to Health Care Access

There are many marginalized population groups in Texas that have difficulty accessing primary care. One population group that experiences more severe health problems than the rest of the population is the elderly. In general, an aging population can put a strain on health care delivery systems. Older Americans are sicker and, therefore, must seek medical care more frequently than younger people. Since Medicare provides insurance to nearly all Americans over 65, older people are more likely to take advantage of available medical care because they are insured. Trends also suggest that older Americans are using the health care system with more frequency than in years past; the number of Medicare-covered physician visits in the United States has been on the rise

²⁷ Craig A. Conway J.D., "The Physician Shortage Problem in Texas," *Health Law Perspectives* (July 2010): p. 2, <http://www.law.uh.edu/healthlaw/perspectives/homepage.asp>.

²⁸ U.S. Census Bureau, "Texas," State and County Quickfacts, <http://quickfacts.census.gov/qfd/states/48000.html>.

²⁹ U.S. Census Bureau, "Texas Census 2010 Population," Texas Dept. of State Health Services, last modified September 2, 2011, <http://www.dshs.state.tx.us/chs/popdat/Census-2010/>.

nationally since 1992.³⁰ More than 2.6 million Texans are over the age of 65, up from just over 2 million in 2000; the over 65 population is projected to surpass 3 million by 2015.³¹

Hispanics are the fastest-growing population subgroup in Texas; they are also less likely to have health insurance.³² Certain characteristics of the Hispanic population make them more likely to take advantage of the health care safety net, placing a lot of stress on the Texas health care system. For example, the Hispanic population tends to access some of the most expensive Medicaid services, more than other ethnic groups.³³ The majority of births in Texas are to Hispanic mothers, and 50% of Hispanic mothers are enrolled in Medicaid.³⁴

Another vulnerable population group in Texas is the uninsured. Texas has the highest ratio of uninsured people in the nation.³⁵ In 2009, the uninsured population in Texas totaled 6.4 million people, or 26.1% of the total state population.³⁶ According to the Congressional Budget Office, certain population groups have a higher likelihood of being uninsured.³⁷ Among these groups are Hispanics and people in families below 200% of the federal poverty level, two groups that are overrepresented in Texas.³⁸ Texas also has a large impoverished population with one in every five adults and one in every three

³⁰ The Federal Interagency Forum on Aging-Related Statistics, *Older Americans 2010: Key Indicators of Well-being*, p. 48, http://www.agingstats.gov/agingstatsdotnet/main_site/default.aspx.

³¹ U.S. Census Bureau, "Texas," State and County Quickfacts.

³² David Krennek, interview by author, Texas Primary Care Office, March 7, 2012.

³³ *Ibid.*

³⁴ Texas Health and Human Services Commission, *Texas Medicaid and CHIP in Perspective* (Austin: Texas Health and Human Services Commission, 2011), p. 4-17.

³⁵ *Ibid.*, p. 1-1.

³⁶ *Ibid.*

³⁷ Texas Medical Association, "The Uninsured in Texas," Texas Medical Association, <http://www.texmed.org/template.aspx?id=5517>.

³⁸ *Ibid.*

children living below the federal poverty line.³⁹ Less than 76% of Texans have health insurance, the smallest percentage of any state and well below the national average of 84.6%.⁴⁰ A large uninsured population puts a strain on the health care safety net. People without insurance tend to seek medical care in emergency rooms, often for things that would not be considered urgent.⁴¹ Treating non-urgent ailments in an emergency room setting is much more costly than treating the same ailment in a clinic, and the cost increase is swallowed by the taxpayers and assessed in insurance premiums.⁴²

A primary care physicians workforce shortage can magnify the negative effects of an already over utilized health care safety net. Although people without insurance tend to seek safety net services because they cannot afford to see a physician, others, including those with health insurance, turn to the emergency room for care because they cannot find a physician to see.⁴³ If local physicians are not taking new patients, or choose not to see Medicare or Medicaid patients, people cannot get the health care services they need, and must rely on the emergency room for non-urgent care.⁴⁴

³⁹ Ibid.

⁴⁰ State Health Access Data Assistance Center, "State Profiles: Texas," State Health Access Data Assistance Center, <http://www.shadac.org/state/tx#1>.

⁴¹ Texas Medical Association, "The Uninsured in Texas."

⁴² Ibid.

⁴³ David Krenek, interview by author, Texas Primary Care Office, March 7, 2012.

⁴⁴ Ibid.

Geographic Barriers to Health Care

As is illustrated by Texas' vast collection of geographic HPSA designations, the primary care physician workforce shortage cannot be isolated to a specific region of the state, nor can it be generalized to a certain population. While geographic HPSA designations exist within urban and rural areas alike, it can be inferred that the primary care physician workforce shortage is worst in the most urban and most rural areas of Texas. A variety of reasons contribute to these disparities, including physician preference, geographic location and overall demand for services.

Generally, physicians prefer to practice in urban areas as opposed to rural areas, a fact that can be seen in the size of the urban physician population in Texas.⁴⁵ The quality of life afforded to a doctor practicing in an urban area is typically much higher than in a rural area, and larger populations also demand larger supplies of physicians, making jobs more readily available. However, these characteristics do not typically apply to urban areas that are designated HPSAs. Often these areas are impoverished, more dangerous and not where physicians necessarily want to live.⁴⁶ Impoverished urban areas are also not ideal for opening up private practices, limiting a physician's job prospects. Additionally, urban HPSAs tend to have higher Medicaid populations and, under the current physicians reimbursement system, primary care physicians stand to earn much less seeing Medicaid patients than they would practicing in more affluent areas.

⁴⁵ Don McBeath, interview by author, March 16, 2012.

⁴⁶ David Krenek, interview by author, Texas Primary Care Office, March 7, 2012.

Texas has the largest rural population of any state with more than 3.6 million people living in rural areas, encompassing about 14% of the total population.⁴⁷ Texas' rural population is just as varied as its urban population and has its own complex battery of health care needs. The number of Texans residing in rural counties is growing; however, the 12% of Texans living in rural areas are being served by only 4% of the state's primary care physicians.⁴⁸ To close the primary care gap facing rural Texas, the primary care physician workforce must increase in rural areas.

Although few parallels can be drawn between the primary care physician workforce needs of urban and rural Texans, there is a common theme of physician maldistribution. In urban areas, there is a high demand for primary care physicians not because there are none, but because they are not accessible in areas with the greatest need. In rural areas, there are few physicians available for residents to visit. To address the primary care physician workforce shortage, Texas must find a way to get physicians to the areas where they are most needed.

⁴⁷ Susan Combs, "Demographics," Window on State Government, <http://www.window.state.tx.us/specialrpt/tif/population.html>.

⁴⁸ U.S. Census Bureau, "Texas Census 2010 Population."

Chapter 2: Pathways to Primary Care Practice

FACTORS CONTRIBUTING TO SPECIALTY CHOICE

One of the chief reasons behind the primary care physician workforce shortage is the decision of many students after medical school not to choose a primary care residency program. Medical students' hesitation to select primary care over other medical specialties has resulted in U.S. residency training programs producing far fewer primary care physicians than specialists, a trend that has held for decades.⁴⁹ Understanding how graduate medical students choose their specialty is the first step to understanding why they are not choosing to pursue a residency in primary care. Medical students consider a variety of factors when deciding which specialty to pursue, including financial considerations, personal background and educational factors.

Financial Factors

Research indicates that a complex relationship exists between student debt and specialty choice. The Graham Center ran a study examining the relationship between student debt and factors shown to influence specialty decisions, including willingness to practice primary care, willingness to practice in an underserved area, and willingness to participate in loan repayment programs.⁵⁰

⁴⁹ The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce*, p.1.

⁵⁰ Ibid.

One factor is physician income. There is a well-documented difference in mean salaries for primary care physicians and other specialists.⁵¹ Primary care physicians make markedly less than any other specialty; over a 30 to 40 year career, a primary care physician stands to make about \$3.5 million less than the middle-range income of other subspecialists.⁵² This salary gap reduces the odds of a student's choice to pursue primary care by almost 50%.⁵³ Additionally, the perceived gap in income between primary care physicians and other specialists reduces a student's odds of working in a Federally Qualified Health Center (FQHC) or Rural Health Center (RHC) by 30%, and reduces a student's willingness to practice in a rural area by 20%.⁵⁴

These salary discrepancies are particularly daunting for a student graduating from medical school hundreds of thousands of dollars in debt. Medical students graduate with high amounts of student debt, and student debt levels have been steadily increasing over the past few decades.⁵⁵ In 2010, the average educational debt for medical students was \$157,944.⁵⁶ Put plainly, pursuing a career in primary care is not a financially responsible decision for heavily indebted medical students.

⁵¹ Thomas Bodenheimer MD, Robert A. Berenson MD, and Paul Rudolf MD, JD, "The Primary Care-Specialty Income Gap: Why it Matters," *Annals of Internal Medicine* 46, no. 4 (2007): p. 301, <http://www.annals.org/content/146/4/301.abstract>.

⁵² The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce*, p. vii.

⁵³ *Ibid.*, p. 20.

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*, p. 17.

⁵⁶ American Medical Association, "Medical Student Debt," American Medical Association, <http://www.ama-assn.org/ama/pub/about-ama/our-people/member-groups-sections/medical-student-section/advocacy-policy/medical-student-debt/background.page>.

Student Background and Primary Care

There are some characteristics that are common to physicians who choose to practice primary care. Students who were born in rural areas or come from disadvantaged backgrounds are more likely to choose to specialize in primary care.⁵⁷ Being born in a rural county is a significant predictor of interest in primary care: rural birth significantly increases odds that a student will pursue primary care and practice in a rural area.⁵⁸ Differences in specialty preference also persist across genders: women are more likely to choose primary care while men are more willing to work in rural areas.⁵⁹

Factors Related to Education

Certain factors are associated with graduate medical education and interest in primary care. One example is the cost of attending medical school. Due largely to the high cost of attending medical school, more students are coming from affluent families who are better able to support the debt associated with obtaining a medical degree.⁶⁰ Debt-averse students who come from disadvantaged backgrounds are more likely to choose not to apply to medical school, creating student body largely made up of students who are less likely to choose to practice primary care.⁶¹ If the people most likely to choose primary care are unable to afford medical school, the chances of producing enough new primary care physicians to fill the need are slight.

⁵⁷ The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce*, p. viii.

⁵⁸ *Ibid*, p. 20.

⁵⁹ *Ibid*, p. xi.

⁶⁰ *Ibid*, p. vii.

⁶¹ *Ibid*, p. viii.

Another example is the type of school a student attends. As evidenced by the Graham Center report, a strong relationship exists between willingness to practice primary care and student background; students from disadvantaged backgrounds are more likely to be interested in primary care.⁶² Due to the smaller price tag, debt-averse medical students are far more likely to attend public schools than private schools.⁶³ Public schools have been shown to produce larger numbers of primary care physicians than private schools.⁶⁴ These factors suggest that closing the primary care physician workforce shortage must include efforts to equalize the playing field for disadvantaged students interested in attending medical school.

⁶² Ibid, p. xi.

⁶³ Ibid, p. vii.

⁶⁴ Ibid, p. xi.

Chapter 3: Solving the Primary Care Shortage in Texas

Primary care physician workforce trends indicate a need for reform of multiple aspects of the health care and medical education systems. There is no shortage of proposed solutions to the U.S. primary care physician workforce shortage; three common suggestions include revising physician reimbursement structures, expanding primary care Graduate Medical Education (GME) opportunities and incentivizing primary care through medical student loan repayment programs.

REVISING PHYSICIAN REIMBURSEMENT STRUCTURES

As stated previously, one of the major issues hindering the development of the primary care physician workforce is the salary difference between primary care and all other specialties. One driver behind this salary gap is the way that physicians are compensated for their services. To provide services, and subsequently receive payment for services rendered, primary care physicians can choose to see patients from multiple insurance programs: the three main insurance programs currently in use are Medicare, Medicaid and the Children's Health Insurance Program (CHIP), and private insurance.⁶⁵

The predominant method of physician reimbursement is fee-for-service (FFS), which is used by both public and private insurers.⁶⁶ The FFS model reimburses

⁶⁵ Marc Kilmer, "Reforming How we Reimburse Doctors," *The Maryland Journal* 1 (2011): <http://marylandjournal.org/publications/detail/reforming-how-we-reimburse-doctors>.

⁶⁶ Connie Berry, interview by author, April 24, 2012.

physicians by assigning a relative dollar value to each office visit and/or procedure completed.⁶⁷ The FFS model was initially developed in the 1980s by the private insurance sector as a way to unbundle chargeable medical services provided by physicians.⁶⁸ Today, the Medicare FFS model serves as a basis for much of the private insurance and Medicaid reimbursement rates.⁶⁹ The FFS models used by each health care insurance program are based on similar methodology; however, actual reimbursement rates vary greatly.⁷⁰ These rate discrepancies create unbalanced compensation levels across all specialties, but these differences are more pronounced between primary care and other specialties.⁷¹

Medicare Reimbursements

Though private insurance created the FFS model, the current Medicare FFS model is used as a benchmark by public and private insurance programs to reimburse physicians.⁷² Reimbursement rates for Medicare patients are calculated using the Medicare Physician Fee Schedule (MPFS) which consists of multiple systems that place values on physician activities.⁷³ Physician reimbursement rates are currently dictated by the Resource Based Relative Value Scale (RBRVS) which was developed in 1992 by Medicare in an effort to equalize the fee disparity between clinic visits and other, more

⁶⁷ Thomas Bodenheimer et. al, "The Primary Care-Specialty Income Gap: Why it Matters," p. 301.

⁶⁸ Ibid.

⁶⁹ Connie Berry, interview by author, April 24, 2012.

⁷⁰ Ibid.

⁷¹ Ibid.

⁷² Thomas Bodenheimer et. al, "The Primary Care-Specialty Income Gap: Why it Matters," p. 301.

⁷³ A. Bruce Steinwald, "The Basics: Medicare's Sustainable Growth Rate," National Health Policy Forum, last modified June 21, 2011, p.1, http://www.nhpf.org/library/the_basics/Basics_SGR_06-21-11.pdf.

specialized procedures.⁷⁴ The RBRVS is based on early surveys measuring the “intensity” of various medical procedures, and uses a combination of variables to assign an intensity-based score to each medical procedure; the higher the score, the higher the reimbursement rate.⁷⁵ Every procedure, from an appendectomy to a clinic visit, is individually valued using a Relative Value Unit (RVU).

Relative Value Units are calculated using three factors: work, practice expense and the cost of malpractice.⁷⁶ Work and practice expense account for the majority of the RVU value, and the more labor-intensive the procedure, the higher the RVU value.⁷⁷ Since clinic visits are considered to be low-intensity, they have some of the lowest RVUs of all procedures. On the other hand, procedures like colonoscopies are assigned much higher RVUs because they are more stressful, can take longer to perform and require a more specialized skillset.⁷⁸ As part of the MPFS review schedule, RVUs are re-evaluated every five years by the Relative Value Scale Update Committee (RUC), a group comprised of 29 physicians including three primary care physicians.⁷⁹

Another element of the RBRVS equation is the Conversion Factor (CF), a dollar amount re-assessed annually that adjusts RVUs into a useable dollar amount.⁸⁰ The dollar value of the CF is calculated based on the relationship between a Medicare spending target known as the Sustainable Growth Rate (SGR) and the real amount spent for

⁷⁴ Thomas Bodenheimer MD, et al. "The Primary Care-Specialty Income Gap: Why it Matters," p. 301.

⁷⁵ Ibid.

⁷⁶ Ibid, p. 302.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid, p. 303.

⁸⁰ A. Bruce Steinwald, "The Basics: Medicare's Sustainable Growth Rate," p.1.

Medicare the previous year.⁸¹ The Medicare spending target is calculated using four factors: the change in number of beneficiaries; the change in the cost of operating a medical practice, also called the Medicare Economic Index (MEI); the increase in the ten-year moving average of GDP; and the projected change in Medicare spending due to any changes to law or regulations.⁸² The final step in calculating the CF is the geographic adjustment which is assessed on the final CF value to account for cost of living differences across the country.⁸³ (See Figure 2)

Figure 2: Resource Based Relative Value Scale Equation ⁸⁴

Payment = RVU x Geographic Adjustment x CF*

RVU (Relative Value Unit)	Reflects relative resource use of physician service
Geographic Adjustment	Accounts for geographic variation in the cost of providing physician services
CF (Conversion Factor)	Converts adjusted RVUs into dollar amounts

* Other adjustments could include those for non-physician providers, Health Professional Shortage Areas.
 Note: The formula shown is a simplified version of the payment formula.

If actual spending is equal to or below the target, the CF will either remain unchanged or increase, resulting in either no difference or a positive difference in

⁸¹ Ibid, p.2.

⁸² Ibid.

⁸³ Ibid, p.1.

⁸⁴ Ibid.

reimbursement rates, respectively.⁸⁵ However, if actual spending is above the target, as it has been in recent years, the CF will decrease and physicians will see a cut in reimbursement rates.

Medicaid & Children's Health Insurance Program (CHIP) Reimbursement

While Medicare reimbursement rates are set without much state involvement, Medicaid and the Children's Health Insurance Program (CHIP) are different. Medicaid and CHIP are entitlement programs that are jointly-funded by the states and a federal matching fund called the Federal Medical Assistance Percentage, or FMAP.⁸⁶ The FMAP is calculated annually on a state by state basis as a ratio of a state's per capita income and the national average per capita income.⁸⁷ The 2011 Medicaid FMAP for Texas is 66.46%, and the Enhanced FMAP, used for CHIP, is 72.39%; the current values for both the Texas FMAP and Enhanced FMAP have increased since 2010.⁸⁸

Although the federal government does broadly regulate Medicaid and CHIP, states are allowed considerable leeway in deciding how to administer their Medicaid and CHIP programs.⁸⁹ States can decide the type, duration and scope of services to offer; they are required to provide some benefits, and can choose to provide other benefits at their

⁸⁵ Ibid.

⁸⁶ Texas Health and Human Services Commission, *Texas Medicaid and CHIP in Perspective*, p. 1-2.

⁸⁷ Ibid.

⁸⁸ Ibid, p. 4-14.

⁸⁹ Ibid, p. 1-2.

discretion.⁹⁰ States are able to manage costs by setting their own out-of-pocket payment requirements for Medicaid and CHIP enrollees, which can be assessed up to a federal maximum amount.⁹¹ Additionally, states have the discretion to decide how their Medicaid and CHIP services will be delivered to clients, and how they will set their reimbursement rates.⁹²

Medicaid and CHIP represent a significant portion of the annual Texas state budget, as well annual state health care spending. In State Fiscal Year (SFY) 2009, Medicaid spending comprised 25% of Texas' total budget, or \$22.8 billion.⁹³ In that same year, Texas' state share of CHIP was over \$290 million.⁹⁴ The Texas Health and Human Services Commission oversees the state Medicaid and CHIP programs; however services are coordinated across the state using different Managed Care Organizations (MCOs).⁹⁵ Managed Care Organizations are organizations that are contracted by the state to provide Medicaid and CHIP services to clients.⁹⁶ To provide comprehensive Medicaid and CHIP

⁹⁰ Centers for Medicare and Medicaid Services, "Medicaid Benefits," Medicaid.gov, <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Medicaid-Benefits.html>.

⁹¹ Centers for Medicare and Medicaid Services, "Premiums, Copayments and Other Cost Sharing," Medicaid.gov, <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Cost-Sharing/Cost-Sharing.html>.

⁹² Centers for Medicare and Medicaid Services, "Delivery Systems," Medicaid.gov, <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Delivery-Systems.html>.

⁹³ Texas Health and Human Services Commission, *Texas Medicaid and CHIP in Perspective*, p. 1-2.

⁹⁴ The Kaiser Family Foundation, "Texas: Total CHIP Expenditures, FY2009," statehealthfacts.org, <http://www.statehealthfacts.org/profileind.jsp?ind=235&cat=4&rgn=45>.

⁹⁵ Connie Berry, interview by author, April 24, 2012.

⁹⁶ Centers for Medicare and Medicaid Services, "Managed Care," Medicaid.gov, <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Managed-Care/Managed-Care.html>.

services, MCOs contract with physicians and hospitals to create a health care network for eligible patients.⁹⁷

Like Medicare and private insurance, Medicaid and CHIP reimburse physicians according to a FFS model. Medicaid and CHIP reimbursement rates are established by the state and are computed based on three components: the cost of providing service, a review of what commercial payers pay in the private market, and a percentage of what Medicare pays for equivalent services.⁹⁸ Medicaid reimbursement rates also vary across types of practice sites. While private practice sites are reimbursed using a FFS model, Federally Qualified Health Centers (FQHC) and Rural Health Centers (RHC) are reimbursed using a cost-based, all-inclusive reimbursement model. At these sites, physicians are reimbursed according to actual cost that they incur when providing services to a patient as opposed to the number of individual services that they provide.⁹⁹

Private Insurance Reimbursements

Private insurance companies contract with physicians and hospitals to create a health care network for paying clients.¹⁰⁰ Although certain aspects of the private insurance industry are overseen by the federal government, reimbursement levels are not

⁹⁷ Texas Health and Human Services Commission, *Texas Medicaid and CHIP in Perspective*, p. 6-2.

⁹⁸ Centers for Medicare and Medicaid Services, "Fee for Service Delivery System," Medicaid.gov, <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Fee-for-Service.html>.

⁹⁹ Centers for Medicare and Medicaid Services, "Rural Health Clinic (RHC) and Federally Qualified Health Center (FQHC) Services," in *Medicare Benefit Policy Manual*, p. 5, <http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/bp102c13.pdf>

¹⁰⁰ Connie Berry, interview by author, April 24, 2012.

regulated.¹⁰¹ Therefore, private insurance companies are able to set reimbursement rates at whatever level they think is required to attract the physicians they want to contract with.¹⁰² Many private insurance companies use Medicare reimbursement rates as a basis for their own reimbursement systems.¹⁰³

EXPANSION OF PRIMARY CARE GRADUATE MEDICAL EDUCATION OPPORTUNITIES

The 2011-2012 school year saw a record number of first-time U.S. medical school applicants.¹⁰⁴ This increase in applications is due in part to the expansion of 10 domestic medical schools, as well as the creation of three new medical schools in Florida, Michigan and New York.¹⁰⁵ There is no lack of interested medical students: the American Association of Medical Colleges (AAMC) predicts an anticipated 30% increase in medical school enrollment.¹⁰⁶ However, while there may be plenty of medical students, there is no evidence to suggest that enough of these students will choose to go into primary care to fulfill the growing need for physicians. Different aspects of the medical education system have an impact on a student's eventual specialty choice, including residency opportunities, exposure to federal grants and educational setting.¹⁰⁷

¹⁰¹ Marc Kilmer, "Reforming How we Reimburse Doctors."

¹⁰² Connie Berry, interview by author, April 24, 2012.

¹⁰³ Ibid.

¹⁰⁴ Julian Pecquet, "Med schools see record number of applicants," *The Hill*, November 22, 2011, <http://thehill.com/blogs/healthwatch/medicare/195069-med-schools-see-record-number-of-applicants>.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce*, p.vii.

Expanding Residency Opportunities via GME Funding Priorities

For medical students to make the choice to practice primary care, they must have the opportunity to do complete residency training in a primary care program. Primary care residency programs last three years and, in addition to providing training for new doctors, these programs also operate as clinics with patient bases largely consisting of Medicaid, CHIP, Medicare and uninsured patients.¹⁰⁸ Although there is a pronounced need for primary care physicians, the current GME pipeline does not support primary care. One factor prohibiting the growth of primary care GME positions is the federal funding structure for residency slots. Currently, GME funds are disbursed through the Center for Medicare and Medicaid Services (CMS) and paid directly to large teaching hospitals.¹⁰⁹

Most primary care residency programs operate outside of the hospital setting, and without federal GME funds, there is little incentive to train physicians in outpatient and community settings.¹¹⁰ Congress made an effort in 2003 to modify the GME payment structure by passing the Medicare Modernization Act which authorized the redistribution of Medicare GME funding for residency slots outside of teaching hospitals with priority given to rural hospitals.¹¹¹ However, this does not fully address the problem, and most residency slots continue to be taken by other specialties.¹¹²

¹⁰⁸ Texas Academy of Family Physicians, *Family Medicine Residency Programs are Critical in Training Texas' Physician Workforce*, Issue Brief: Improving Texas' Primary Care Physician Workforce, <http://www.tafp.org/Media/Default/Downloads/advocacy/gme.pdf>.

¹⁰⁹ Council on Graduate Medical Education, *Advancing Primary Care* 20, p. 40.

¹¹⁰ *Ibid.*

¹¹¹ *Ibid.*, p. 41.

¹¹² *Ibid.*, p. 38.

Increasing Student Exposure to Title VII Grants in School

There is a strong correlation between graduate medical education grants, particularly Title VII Section 747 Primary Care Training Grants, and production of primary care physicians.¹¹³ Research has indicated that primary care education programs that are awarded Title VII grants are more likely to graduate more primary care physicians, and an increased probability that these graduates will practice in underserved areas including Community Health Centers (CHC).¹¹⁴ Title VII grants are managed and distributed by the Health Resources and Services Administration (HRSA) and are intended to strengthen primary education training both at medical schools and residency programs.¹¹⁵ These grants are also positively correlated with National Health Services Corps (NHSC) participation.¹¹⁶ Increasing student exposure to Title VII grant-funded programs will have a positive impact on the primary care physician education and outcomes.

Innovative Primary Care Education Tracks

In an effort to reduce medical student debt, and make primary care more attractive to students, various educational institutions have begun developing and implementing

¹¹³ Ibid, p. 36.

¹¹⁴ Diane R. Rittenhouse MD, MPH et al., "Impact of Title VII Training Programs on Community Health Center Staffing and National Health Service Corps Participation," *Annals of Family Medicine* 6, no. 5 (September-October 2008): p. 398.

¹¹⁵ Ibid.

¹¹⁶ Ibid.

abbreviated primary care medical education tracks.¹¹⁷ These three-year primary care programs combine an intensive curriculum with an emphasis on primary care clinical experiences from the beginning.¹¹⁸ Although they are new, various abbreviated primary care education models are currently operating across the country.¹¹⁹ One program developed at Lake Erie College of Osteopathic Medicine called the Primary Care Scholars Pathway (PCSP) selects students who commit to practicing primary care and supports them through a three-year program that culminates in placement in primary care residency slots.¹²⁰ As an incentive for enrolling in the PCSP, students exchange a five-year primary care service commitment for a full tuition scholarship.¹²¹

Another abbreviated primary care education program has recently started accepting medical students at the Texas Tech University Health Sciences Center (TTUHSC) called the Family Medicine Accelerated Track (FMAT).¹²² The FMAT program will allow students to complete their medical education in three years instead of four, becoming the first approved and accredited three-year medical degree in the country.¹²³ Once students complete their three-year program of coursework, they will

¹¹⁷ Council on Graduate Medical Education, *Advancing Primary Care* 20, p. 35.

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.*

¹²⁰ *Ibid.*

¹²¹ *Ibid.*

¹²² Texas Tech Health Sciences Center, "Primary Care Physician Shortage: Texas Tech University Health Sciences Center Has the Solution," *PRWeb*, July 12, 2011, <http://www.prweb.com/releases/2011/7/prweb3763794.htm>.

¹²³ *Ibid.*

immediately begin residency in one of three TTUHSC family medicine programs in Amarillo, Lubbock or the Permian Basin.¹²⁴

By shortening the time spent in medical school, the FMAT program will not only produce more primary care physicians faster, but at one-half the cost of a traditional four year degree, it will also make medical education an option for a wider variety of students.¹²⁵ Every student that enters the program will be awarded a scholarship for their first year of training by the Texas Tech University Health Sciences Center School of Medicine.¹²⁶ The program is able to offer education at a reduced cost to students by awarding scholarships to all accepted students, something made possible by a \$1.5 million federal Title VII Section 747 Primary Care Training grant.¹²⁷ The federal grant will last for five years and will develop, implement and assess the program.¹²⁸ The FMAT program began admitting students in the summer of 2011, and is currently admitting 10 students a year.

MEDICAL STUDENT LOAN REPAYMENT PROGRAMS

Since debt has been identified as a contributing factor to specialty choice, one way to make primary care more attractive to medical students is to incentivize it. Offered

¹²⁴ Texas Tech University Health Sciences Center School of Medicine, "F-MAT Frequently Asked Questions," Texas Tech University Health Sciences Center, last modified 2012, <http://www.ttuhscc.edu/som/fammed/fmat/fmatfaq.aspx>.

¹²⁵ Texas Tech University Health Sciences Center, *Primary Care Shortage... TTUHSC has the Primary Solution*, <http://ww1.prweb.com/prfiles/2011/04/27/3763794/FMatPRFinal.pdf>.

¹²⁶ Ibid.

¹²⁷ Ibid.

¹²⁸ Texas Tech University Health Sciences Center School of Medicine, "On the Fast Track: FMAT Program Receives \$1.5 Million Federal Grant," TTUHSC News, <http://www.ttuhscc.edu/newsevents/2010/october/fmatGrant.aspx>.

to physicians, as well as select medical students, medical student loan repayment programs allow interested primary care physicians to exchange loan repayment for service commitments to practice in underserved areas. These programs exist at the federal level in the form of the National Health Service Corps (NHSC), as well as at the state level in some states, including Texas. Medical student loan repayment programs have been proven to actively recruit and retain physicians in underserved areas, making them a successful option for increasing the primary care physician workforce.¹²⁹

National Health Service Corps (NHSC)

The National Health Service Corps (NHSC) is a federally funded medical student loan repayment program open to primary care medical, dental and behavioral health physicians, as well as some qualifying mid-level practitioners.¹³⁰ The program was established in 1972 with the aim to bring health care to those who need it most.¹³¹ National Health Service Corps participants practice in thousands of approved NHSC sites in underserved areas across the country.¹³² Sites are located in underserved urban, rural and frontier areas and include multiple practice types such as Federally Qualified Health Centers (FQHC), private practices and critical access hospitals.¹³³

¹²⁹ The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce*, p. 4.

¹³⁰ US Department of Health and Human Services, "Loan Repayment," National Health Service Corps, <http://nhsc.hrsa.gov/loanrepayment/index.html>.

¹³¹ US Department of Health and Human Services, "About Us," National Health Service Corps, US Department of Health and Human Services, "Loan Repayment," National Health Service Corps, <http://nhsc.hrsa.gov/loanrepayment/index.html>.

¹³² *Ibid.*

¹³³ Cindy Ellis, "National Health Service Corps" (lecture, University of Texas Medical Branch, Galveston, TX, October 12, 2011).

The NHSC offers two different programs for primary care physicians dedicated to practicing in underserved areas: scholarship and loan repayment.¹³⁴ The NHSC Scholarship Program pays tuition, books and other educational expenses for students enrolled in school for a qualifying primary care discipline.¹³⁵ Upon completion of training, or a residency program, NHSC Scholars serve as primary care physicians in NHSC-approved sites for two to four years, depending on the number of years a scholarship was received.¹³⁶ To ensure that the neediest areas have access to primary care, NHSC Scholars are required to fulfill their service obligation in the neediest areas designated by an annual Health Professional Shortage Area (HPSA) cut-off score.¹³⁷ National Health Service Corps scholarships are not considered to be taxable income, further increasing the financial value of the program.¹³⁸

The NHSC Loan Repayment Program is a program for qualified primary care physicians who have already completed their medical training and have found a position at an eligible NHSC site.¹³⁹ In return for a minimum two-year service commitment, physicians can receive loan repayment with the option to extend their contract annually until all qualifying student loans are paid in full.¹⁴⁰ Although there is no HPSA cut-off

¹³⁴ US Department of Health and Human Services, "Home," National Health Service Corps, <http://nhsc.hrsa.gov/index.html>.

¹³⁵ US Department of Health and Human Services, "About Us."

¹³⁶ Ibid.

¹³⁷ Cindy Ellis, "National Health Service Corps" (lecture, University of Texas Medical Branch, Galveston, TX, October 12, 2011).

¹³⁸ US Department of Health and Human Resources, "Scholarships," National Health Service Corps, <http://nhsc.hrsa.gov/scholarships/index.html>.

¹³⁹ US Department of Health and Human Services, "About Us."

¹⁴⁰ US Department of Health and Human Services, "Full-Time Program," National Health Service Corps, <http://nhsc.hrsa.gov/loanrepayment/fulltimeprogram/index.html>.

score for loan repayors, priority is given to physicians working in higher-scoring areas.¹⁴¹ Loan repayment award totals differ based on HPSA score: physicians working at higher scoring sites are eligible to receive higher amounts of loan repayment than their counterparts at lower-scoring sites. For 2012, loan repayors working at NHSC sites with a HPSA score of 14 or above are eligible to receive up to \$60,000 in loan repayment for an initial contract.¹⁴² Loan repayors working at NHSC sites with a HPSA score of 13 and below are eligible to receive up to \$40,000 for an initial two-year contract.¹⁴³ As with the NHSC Scholarship Program, funds awarded by the NHSC for loan repayment are not considered taxable income.¹⁴⁴

Participation in the NHSC has almost tripled since 2008 when a considerable amount of funding was invested in the program by the American Recovery and Reinvestment Act (ARRA). In 2008, approximately 3.7 million patients were served by 3,500 participating NHSC medical, dental and behavioral clinicians; today there are more than 10,000 participating clinicians who practice at more than 17,000 eligible sites and provide care to more than 10.5 million people.¹⁴⁵ Growth is expected to continue with additional funding provided by the Patient Protection and Affordable Care Act (see Chapter 4 for further analysis of the PPACA).

¹⁴¹ Cindy Ellis, "National Health Service Corps" (lecture, University of Texas Medical Branch, Galveston, TX, October 12, 2011).

¹⁴² US Department of Health and Human Services, "Full-Time Program."

¹⁴³ Ibid.

¹⁴⁴ Cindy Ellis, "National Health Service Corps" (lecture, University of Texas Medical Branch, Galveston, TX, October 12, 2011).

¹⁴⁵ US Department of Health and Human Services, "About Us."

Research indicates that the NHSC is associated with positive workforce and patient outcomes. Research by the Robert Graham Center found multiple positive outcomes associated with participation in the NHSC, particularly regarding workforce participation. For example, physicians who participate in the NHSC are likely to remain in their chosen communities providing primary health care to the underserved even after completing their service obligation.¹⁴⁶ The Robert Graham Center also found that indebted medical students are interested in trading debt for service, something that is reflected in the competitiveness of the NHSC application process.¹⁴⁷

Research by Dr. Don Pathman found positive patient outcomes associated with areas employing NHSC physicians. One study assessing the differences in age-adjusted mortality rates in rural areas found that areas with practicing NHSC physicians had lower mortality rates than areas without NHSC physicians.¹⁴⁸ Another of Pathman's studies examined the effects of NHSC clinician employment on the overall primary care physician population of a given county.¹⁴⁹ This study found that counties with practicing NHSC clinicians saw a higher increase in non-NHSC primary care physicians than counties without NHSC participation.¹⁵⁰

¹⁴⁶ The Robert Graham Center, *Specialty and Geographic Distribution of the Physician Workforce*, p. 4.

¹⁴⁷ *Ibid.*, p. 50.

¹⁴⁸ Jane Stoeber, "Health Improves in Areas NHSC Staffs, Says Study," AAFP News Now, last modified July 11, 2005, <http://www.aafp.org/online/en/home/publications/news/news-now/archive/nhscstaff.html>.

¹⁴⁹ *Ibid.*

¹⁵⁰ Jane Stoeber, "NHSC Clinicians Seem to Attract Non-NHSC Colleagues," AAFP News Now, last modified November 3, 2006, <http://www.aafp.org/online/en/home/publications/news/news-now/clinical-care-research/20061103nhsc.html>.

Texas Physician Education Loan Repayment Program (PELRP)

In addition to the National Health Service Corps, many states operate their own physician loan repayment programs. In 1985, Texas established the Physician Education Loan Repayment Program (PELRP), a loan repayment program for physicians dedicated to practicing primary care in rural and underserved areas.¹⁵¹ To be eligible under current rules, participants must have already completed their residency, agree to practice in a HPSA for at least four consecutive years and see patients enrolled in Medicaid and CHIP.¹⁵² Unlike the NHSC, the PELRP does not preclude specialists from applying for loan repayment; however, primary care specialties are given priority.¹⁵³ Upon acceptance into the program, PELRP physicians will be awarded up to \$160,000 in loan repayment with payments disbursed at the end of each 12-month service period.¹⁵⁴

Since its inception, the PELRP has been supported using various funding mechanisms. Until 2009, the PELRP was funded by a general revenue appropriation and a 2% allotment of medical school tuition taken from seven state medical schools.¹⁵⁵ Eligible physicians were able to qualify for five years of assistance using a tiered amount

¹⁵¹ *The Physician Education Loan Repayment Program: Senate Health and Human Services Committee Meeting*, 79th Leg. Leg., 1st Legis. Sess. (Tex. 2005).

¹⁵² Texas Higher Education Coordinating Board, "Physician Education Loan Repayment Program," Texas Higher Education Coordinating Board, <http://www.hhloans.com/index.cfm?ObjectID=A85AA8AA-0CD1-EDD4-D9379C7C084059FB>.

¹⁵³ Texas Department of State Health Services, "Texas Primary Care Office Information," Primary Care Office, last modified April 13, 2012, http://www.dshs.state.tx.us/chpr/tpco_info.shtm.

¹⁵⁴ *Ibid.*

¹⁵⁵ Texas Comptroller of Public Accounts, *Report on the Physician Education Loan Repayment Program-2010*, Special Report, <http://www.window.texas.gov/specialrpt/hb1420/PhysicianLoanRepay2010.pdf>; Cindy Ellis, interview by author, April 29, 2012.

of loan repayment depending on their practice site.¹⁵⁶ Physicians practicing in frontier HPSAs were awarded more than those practicing in rural and urban HPSAs.¹⁵⁷ In 2000 PELRP awards were changed from a tiered system to a flat \$9,000 award assessed after each 12-month service period.¹⁵⁸

During the 81st legislature in 2009, the funding mechanisms for the PELRP were changed from a mix of general revenue and tuition funds to revenue from a smokeless tobacco tax.¹⁵⁹ Eligibility requirements were also changed from a possible five-year service obligation to a required four-year obligation.¹⁶⁰ By re-designing the tax structure for smokeless tobacco products, tax rates on smokeless tobacco products increased, resulting in a significant injection of funds into the PELRP.¹⁶¹ When fully vested at 2009 funding levels, the PELRP had the potential to place and support up to 225 primary care physicians per year, bringing primary care services to the neediest Texans.¹⁶² However, during the 82nd legislature, funding for the PELRP was reduced significantly from \$22 million for the 2010-2011 biennium to \$5.6 million for the 2012-2013 biennium.¹⁶³ As a result, no new participants will be accepted into the PELRP through 2013.¹⁶⁴

¹⁵⁶ Cindy Ellis, interview by author, April 29, 2012.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

¹⁶¹ John S. O'Brien to Joe Strauss Hon., May 28, 2009, in *Fiscal Note, 81st Legislative Regular Session*, p.2

¹⁶² Texas Academy of Family Physicians, "Texas Physician Education Loan Repayment Program," Texas Academy of Family Physicians, last modified June 27, 2011, <http://v1.tafp.org/students/resources/loanRepayment.asp>.

¹⁶³ Texas Higher Education Coordinating Board, "Physician Education Loan Repayment Program."

¹⁶⁴ Ibid.

Similar to the NHSC, research indicates that physicians that participate in the PELRP are more likely to stay in the underserved community where they practiced even after they have finished their PELRP commitment.¹⁶⁵ A retention study completed by the Texas Primary Care Office in 2011 found that, of all physicians currently participating in the PELRP, 43.4% were still practicing in a rural county and 49.1% of physicians were still practicing in a HPSA.¹⁶⁶

¹⁶⁵ Cindy Ellis, interview by author, April 29, 2012.

¹⁶⁶ Ibid.

Chapter 4 – The Patient Protection and Affordable Care Act

In 2009, President Obama made sweeping health care reform a reality by signing the Patient Protection and Affordable Care Act (PPACA) into law. The law will overhaul the entire health care system at a total cost of \$1 trillion over its first 10 years, a cost paid for by new taxes, industry fees and health care spending cuts.¹⁶⁷ The individual mandate is the central mechanism of the PPACA. Put plainly, if a person does not have insurance and does not obtain insurance either through their employer or through the state exchanges by the 2014 deadline, they will face a financial penalty.¹⁶⁸

Exchanges

The state insurance exchanges created by the PPACA will begin operating in 2014.¹⁶⁹ By spreading the risk and requiring insurance companies to offer certain standard plans, the exchanges will provide America's uninsured with a way to compare and purchase affordable insurance coverage.¹⁷⁰ Each state will have the opportunity to design and operate its own exchange, which will vary depending on the state.¹⁷¹ Each state exchange will offer multiple plans to choose from that will be compared against a

¹⁶⁷ Alec MacGillis, "The Best, the Worst, the Future," in *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all* (New York: Public Affairs, 2010), p. 66.

¹⁶⁸ Alec MacGillis, "The Individual Mandate: How it Will Work," in *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all* (New York: Public Affairs, 2010), p. 86.

¹⁶⁹ Amy Goldstein, "Priority One: Expanding Coverage," in *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all* (New York: Public Affairs, 2010), p. 76.

¹⁷⁰ *Ibid.*

¹⁷¹ *Ibid.*

standard four-tier coverage system: bronze, silver, gold and platinum.¹⁷² Each tier represents a plan that covers a different percentage of an individual's medical costs, with the bronze plan covering 60% of an individual's costs and the platinum plan covering 90% of an individual's costs.¹⁷³ The federal government will also decide on two private plans that will be offered nationally.¹⁷⁴ The state exchanges will not set insurance rates – however, if a state decides an insurance company has set rates too high, they are able to bar them from the exchanges.¹⁷⁵

Changes to Medicaid

The PPACA implements sweeping changes to the two largest government-funded healthcare programs: Medicare and Medicaid. The PPACA expands Medicaid eligibility to cover all people under the age of 65 with incomes up to 133% of the Federal Poverty Level (FPL), providing benefits to almost half of the anticipated 32 million Americans who will gain insurance under the new law.¹⁷⁶ This also represents a significant shift in the balance between state and federal oversight of the Medicaid program. Prior to the passage of the PPACA, states were allowed to regulate their own eligibility guidelines, which led to some considerable variation across states.

With this new federal oversight comes a new commitment to funding Medicaid. Under new PPACA Medicaid eligibility levels, the federal government will assume a

¹⁷² Ibid, p. 77.

¹⁷³ Ibid, p. 78.

¹⁷⁴ Ibid, p. 77.

¹⁷⁵ Ibid.

¹⁷⁶ Amy Goldstein, "Priority One: Expanding Coverage," p. 74.

much larger portion of the Medicaid funding equation to ensure states are able to meet new demand.¹⁷⁷ The federal government will also contribute more to state CHIP programs, though eligibility requirements will not change.¹⁷⁸

Changes to Medicare

Although older Americans are not a focus of the PPACA because they are already insured under Medicare, the new law does make some changes to Medicare that will affect those already enrolled in the program. Over the next 10 years the Medicare doughnut hole, the current gap in prescription drug coverage, will decrease steadily until it disappears, resulting in savings for beneficiaries.¹⁷⁹ The bulk of the changes made to Medicare in the PPACA have to do with cost reductions.

Costs

Over the next decade, the PPACA will extend insurance coverage to most Americans at a projected cost of around \$938 billion.¹⁸⁰ The law is financed by a mix of spending reductions on current health care programs, new taxes and noncompliance penalties.¹⁸¹ The single largest funding mechanism for the PPACA is cuts to Medicare,

¹⁷⁷ Ibid, p.75.

¹⁷⁸ Ibid.

¹⁷⁹ Amy Goldstein, "The Medicare Changes: Dollars and Doughnuts," in *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all* (New York: Public Affairs, 2010), p. 113.

¹⁸⁰ Lori Montgomery, "Paying for It: Taxes, Penalties and Spending Cuts," in *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all* (New York: Public Affairs, 2010), p. 169.

¹⁸¹ Ibid.

which provide \$416.5 billion in savings over the next decade.¹⁸² In 2010, the federal government was projected to spend more than \$500 billion on Medicare, making it the third costliest element of the federal government behind Social Security and the Pentagon.¹⁸³ Lawmakers elected to reduce spending on Medicare both as a way to fund the PPACA and to control Medicare's costs, which are expected to rise with the aging of the American population.¹⁸⁴ The most significant cuts were to Medicare Advantage, Medicare plans funded by the government but managed by private insurance companies.¹⁸⁵ Medicare Advantage was developed as a cost-saving mechanism, but has proven to be more expensive than traditional Medicare.¹⁸⁶ By eliminating some of the benefits currently enjoyed by the 11 million people enrolled in Medicare Advantage, the government will be able to save \$140 billion over the next 10 years.¹⁸⁷ Medicare costs will also be decreased by an agreement reached between the government and hospitals, who will accept smaller increases in Medicare rates over the next 10 years, saving close to \$200 billion.¹⁸⁸

Another funding source for the PPACA is new taxes on high earners and penalties for individuals and businesses that do not comply with the new law.¹⁸⁹ Two new taxes will be assessed on "high earners," people with gross incomes of over \$200,000 and

¹⁸² Ibid, p. 173.

¹⁸³ Ibid, p. 176.

¹⁸⁴ Ibid.

¹⁸⁵ Ibid.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

¹⁸⁸ Ibid, p. 177.

¹⁸⁹ Ibid, p. 170.

families with gross incomes of over \$250,000 annually.¹⁹⁰ Starting in 2013, the tax for Medicare hospitalization insurance will increase from 1.45% to 2.35% for incomes over the \$200,000 threshold established in the law: an individual making \$250,000 would pay a 1.45% tax rate on the first \$200,000 and a rate of 2.35% on the remaining \$50,000.¹⁹¹ A second tax will be implemented in 2013 and will be assessed on investment income. High earners will be required to pay a 3.8% Medicare “contribution” tax on unearned income, including interest, dividends, royalties, annuities, capital gains and rent.¹⁹² Together, these taxes are projected to generate \$210 billion over the next decade.¹⁹³

The new health care mandates created by the PPACA will be funded largely by penalties for noncompliance and fees on stakeholders who stand to benefit from the new law. By 2016, individuals unable to provide proof of insurance will have to pay a penalty ranging from \$695 a year for an individual to \$2,085 a year for families.¹⁹⁴ In 2014, another new penalty will be assessed on companies that do not provide insurance for their employees at a rate of \$2,000 per worker.¹⁹⁵ Finally, fees will be assessed on insurance companies, medical device manufacturers and drug companies in exchange for the opportunity to serve such a large number of new clients.¹⁹⁶ Combined, these new

¹⁹⁰ Ibid.

¹⁹¹ Ibid.

¹⁹² Ibid.

¹⁹³ Ibid, p. 171.

¹⁹⁴ Ibid, p. 172.

¹⁹⁵ Ibid, p. 175.

¹⁹⁶ Ibid.

penalties and fees will amount to \$176 billion in revenue to support the new coverage mandates.¹⁹⁷

Despite its immense cost, the PPACA will eventually generate extra revenue by the time it is fully implemented in 2019.¹⁹⁸ The Congressional Budget Office estimates that after full implementation, the PPACA will cost about \$215 billion a year while bringing in about \$230 billion in revenue and cost-savings.¹⁹⁹ The extra revenue will be used to offset the federal deficit.²⁰⁰

Implementation

The PPACA has been implemented slowly since its passage in 2010, and will continue to be implemented until 2018.²⁰¹ Most of the major initiatives will begin in 2014; however, some of the smaller changes have already gone into effect. Some of the largest measures that were implemented in the first year of the PPACA, 2010, expanded coverage to people who have historically lacked coverage: the healthy young and people with pre-existing conditions.²⁰² Since 2010, uninsured adults with pre-existing conditions have been able to enroll in a national “high risk pool,” and insurance companies are no longer allowed to deny coverage to children with pre-existing conditions, drop coverage

¹⁹⁷ Ibid, p. 173.

¹⁹⁸ Ibid, p. 171.

¹⁹⁹ Ibid.

²⁰⁰ Ibid, p. 169.

²⁰¹ Kaiser Family Foundation, "Implementation Timeline," in *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all* (New York: Public Affairs, 2010), p. 70.

²⁰² Connie Berry, interview by author, April 24, 2012.

when someone gets sick or place lifetime limits on coverage.²⁰³ Young adults are permitted to stay on their parents' insurance plan up to age 26.²⁰⁴ The PPACA also offered immediate relief to Medicare enrollees who fell into the Medicare donut hole, providing them with a \$250 rebate to help cover medical expenses.²⁰⁵

In 2011, drug companies were required to provide prescription drugs at a 50% discount to those in the Medicare Part D coverage gap and Medicare Advantage levels were frozen at 2010 levels. Additionally, a 10% bonus in Medicare reimbursement rates was applied to primary care physicians and general surgeons.²⁰⁶ In 2012, the Center for Medicare and Medicaid Services will begin tracking hospital readmission rates to put in place financial incentives to reduce preventable readmissions.²⁰⁷

In 2013 some of the key funding mechanisms for the PPACA will be implemented. For example, the Medicare payroll tax will be increased to 2.35% for individuals making more than \$200,000 per year and married couples making more than \$250,000 per year.²⁰⁸ A 3.8% tax will be assessed on all investment income, and a 2.9% excise tax will be assessed on the sale of medical devices.²⁰⁹

In 2014, the major efforts at expanding insurance to all Americans will go into effect. The state insurance exchanges will begin operating, and subsidies will become available to people up to 400% of the federal poverty level (FPL) to purchase insurance

²⁰³ Kaiser Family Foundation, "Implementation Timeline," p. 70.

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Ibid.

²⁰⁷ Ibid.

²⁰⁸ Ibid, p. 71.

²⁰⁹ Ibid.

through the exchanges.²¹⁰ Health plans will no longer be permitted to ban people with pre-existing conditions from purchasing coverage, and most people will be required to obtain insurance or pay a fine.²¹¹ Employers of 50 or more workers will also start facing penalties if they do not offer health insurance to their employees.²¹² Medicaid will expand eligibility levels in 2014, covering all people under the age of 65 with incomes of up to 133% FPL.²¹³

THE PPACA AND PRIMARY CARE

The PPACA is going to have broad effects on primary care largely due to the influx of newly insured patients it will create through Medicaid expansion and individual mandates. These newly insured patients will need primary care physicians; however, a shortage of 35,000 to 44,000 primary care physicians is anticipated by 2025.²¹⁴ To address this shortage and ultimately improve patient outcomes, the PPACA works to encourage physicians to pursue careers in primary care through various incentives that make primary care more attractive.²¹⁵ Combined with previous funding efforts made by the American Recovery and Reinvestment Act (ARRA), the PPACA will provide the

²¹⁰ Ibid.

²¹¹ Ibid.

²¹² Ibid.

²¹³ Ibid.

²¹⁴ David Brown, "On the Front Lines: How Medical Practice Will Change," in *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all* (New York: Public Affairs, 2010), p. 138.

²¹⁵ Ibid.

support needed to train, develop and place more than 16,000 new primary care physicians.²¹⁶

The PPACA includes multiple provisions to help bolster the primary care physician workforce. To help address the payment disparity between primary care physicians and other specialists, a 10% increase in Medicare reimbursement rates for “evaluation and management” services, which includes services commonly provided by primary care physicians including examining and talking to patients, will be applied between 2011 and 2015.²¹⁷ The PPACA also stipulates an increase in Medicaid reimbursement rates to the equivalent level of Medicare in 2013 and 2014.²¹⁸ Another new incentive for primary care physicians is \$10 million in tax refunds that will be available to physicians practicing in underserved areas.²¹⁹

To address the issue of graduate medical education and primary care, the PPACA creates a \$1.5 billion dedicated fund to increase the number of primary care physicians involved in the National Health Service Corps (NHSC).²²⁰ Combined with the \$300 million in funds previously dedicated by ARRA, the NHSC will be able to incentivize an additional 12,000 physicians to practice primary care in underserved areas by 2016.²²¹ Additionally, the PPACA put in place mechanisms to better utilize residency

²¹⁶ HealthCare.gov, "Fact Sheet: Creating Jobs and Increasing the Number of Primary Care Physicians," HHealthReform.gov, <http://www.healthreform.gov/newsroom/primarycareworkforce.html>.

²¹⁷ Craig A. Conway J.D., "The Physician Shortage Problem in Texas," *Health Law Perspectives* (July 2010): p. 4, <http://www.law.uh.edu/healthlaw/perspectives/homepage.asp>.

²¹⁸ Ibid.

²¹⁹ HealthCare.gov, "Fact Sheet: Creating Jobs and Increasing the Number of Primary Care Physicians."

²²⁰ Craig A. Conway J.D., "The Physician Shortage Problem in Texas," p.4

²²¹ HealthCare.gov, "Fact Sheet: Creating Jobs and Increasing the Number of Primary Care Physicians."

opportunities by redistributing unused Medicare-funded residency slots to programs that agree to train more primary care physicians.²²² The new law creates the Prevention and Public Health Fund aimed at creating the necessary infrastructure to support the growth of primary care.²²³ Included in the Prevention and Public Health Fund is \$168 million to support the creation of additional primary care residency slots to train more than 500 new primary care physicians by 2015.²²⁴

THE PPACA AND TEXAS

When the insurance exchanges go into full effect in 2014, the percentage of Texans with health insurance will increase from 74% to 91%.²²⁵ Texas will face three main challenges in complying with the PPACA: expanding services, developing a health care exchange and effectively financing the new programs.

Expansion of Services

One of the primary mechanisms implementation challenges Texas will face is associated with the increased Medicaid eligibility requirements stipulated by the PPACA. Under the new 133% FPL threshold, Texas will have to integrate multiple new populations into the Medicaid system, including: parents and caretakers between 12%

²²² Craig A. Conway J.D., "The Physician Shortage Problem in Texas," p.4.

²²³ HealthCare.gov, "Fact Sheet: Creating Jobs and Increasing the Number of Primary Care Physicians."

²²⁴ Ibid.

²²⁵ National Association of Insurance and Financial Advisors - Texas, "Texas Legislators Hear from Officials on PPACA," National Association of Insurance and Financial Advisors - Texas, last modified February 28, 2012, <http://www.naifa-texas.org/news/240-texas-legislators-hear-from-officials-on-ppaca>.

and 133% of the FPL; childless adults up to 133% of the FPL; former foster care youth through age 25; and children ages 6 to 18 between 100% and 133% of the FPL.²²⁶ When combined with the 600,000 people that are currently eligible but not enrolled, the integration of these newly eligible groups translates into a total of 1.8 million new Texas Medicaid beneficiaries beginning in 2014.²²⁷

Costs of Implementation

These increases in Medicaid eligibility will result in significant costs to the state. However, the federal government will largely subsidize the costs associated with expanding Medicaid in the immediate future. The federal government will cover the full cost of Medicaid for newly eligible beneficiaries for the first three calendar years of PPACA implementation.²²⁸ In 2016, FMAP levels will decrease to 95% and levels will gradually decrease to 90% in 2020 and beyond.²²⁹ Federal matching rates for CHIP will also increase by 23 percentage points from October 1, 2015 to September 30, 2019.²³⁰

Despite the fact that the federal government is shouldering most of the costs associated with enrolling newly-eligible Medicaid and CHIP beneficiaries for the first few years, there are considerable costs associated with complying with the other stipulations in the PPACA that Texas must cover. The Texas Health and Human Services Commission estimates that compliance with the other components of the PPACA

²²⁶ Texas Health and Human Services Commission, *Texas Medicaid and CHIP in Perspective*, p. 3-3.

²²⁷ Ibid.

²²⁸ Ibid, p. 3-9.

²²⁹ Ibid, p. 3-10.

²³⁰ Ibid, p. 3-9.

Medicaid expansion, including primary care physician rate increases, enrolling those who are currently eligible but not enrolled, and supporting the expansion of adult Medicaid benefits, will cost Texas around \$3 billion between 2014 and 2016.²³¹

²³¹ Ibid, p. 3-8.

Chapter 5 – Policy Recommendations

With the passage of the Patient Protection and Affordable Care Act (PPACA), as well as various other initiatives in support of Graduate Medical Education (GME), the federal government has shown that improving primary care is a national priority. The changes being made to federal health care policy outlined above will work to decrease the primary care physician shortage by improving the financial outlook for primary care physicians and better equipping the GME pipeline to support the increase in primary care physician production that is necessary to keep pace with current demand.

Despite the fact that Texas does not have a large enough primary care physician workforce to support its growing population, the legislature recently took sharp action against efforts to alleviate the problem. The 82nd legislative session was politically damaging for primary care in Texas. Legislators cut almost 40% from the overall state graduate medical education budget, and made much more severe cuts to primary care GME programs.²³² During the 82nd legislative session, lawmakers made sweeping reductions to programs and monies meant to support graduate medical education opportunities. State GME formula funding was decreased by 32% while total Texas Higher Education Coordinating Board GME Funds were cut by 79%.²³³ Some of the

²³² Jonathan Nelson, "Budget slashes 80 percent of support for programs designed to increase primary care physician workforce," Texas Academy of Family Physicians, <http://www.tafp.org/news/tfp/summer-2011/workforce-cuts>.

²³³ Texas Medical Association, "Higher Education Funding Slashed in 2012-13 State Budget Plan," State Funding Allotted for for GME/Physician Loan Repayment Program, <http://www.texmed.org/Template.aspx?id=21721>.

deepest funding cuts were to programs specifically for primary care physicians. Texas' Family Practice Residency Program was cut by 76%, while the state's Primary Care Residency Program was completely defunded, down from \$5 million during the previous biennium.²³⁴

If Texas hopes to expand its primary care physician workforce to better provide care to its residents, the legislature must take steps to increase primary care educational opportunities and enact legislation to further support federal efforts made in the PPACA.

POLICY CONSIDERATION: CLOSING THE PRIMARY CARE WEALTH GAP

As discussed previously, reimbursement rates for Medicare, Medicaid & CHIP, and private insurance all vary according to a number of different factors. Medicare reimbursements fluctuate annually based on the SGR, Medicaid and CHIP reimbursement levels differ depending on where a physician works, and private insurance reimbursement rates are unregulated. These rate differences result in a hierarchy of reimbursement levels, with private insurance reimbursing the most, Medicare second and Texas Medicaid and CHIP the least.²³⁵ This creates some hesitation by physicians as to which insurance programs to enroll in. Most primary care physicians accept multiple private insurance plans because they reimburse well.²³⁶ However, physicians do exercise

²³⁴ Texas Medical Association, "Higher Education Funding Slashed in 2012-13 State Budget Plan," State Funding Allotted for for GME/Physician Loan Repayment Program, <http://www.texmed.org/Template.aspx?id=21721>.

²³⁵ Connie Berry, interview by author, April 24, 2012.

²³⁶ Marc Kilmer, "Reforming How we Reimburse Doctors."

caution when considering whether or not to accept patients enrolled in Medicare, CHIP and especially Medicaid.²³⁷

If primary care physicians do not choose to accept Medicare or Medicaid and CHIP patients, a significant portion of the Texas' most vulnerable population faces an unnecessary barrier to access. This places more stress on the health care safety net, and on the primary care physicians who do see these patients because there are fewer of them to handle a larger caseload. If reimbursement rates for these programs continue to be low, primary care physician salaries will have little chance of competing with other specialty salaries, hindering progress on an important contributing factor to physician specialty choice.

Problems with the Medicaid and CHIP reimbursement structures stem from the fact that Texas cannot support the growth of these programs. As it stands, Medicaid is worse off than CHIP because Medicaid enrollment rates have increased so rapidly. Between 1985 and 2010, Texas' Medicaid caseload increased by 90% and enrollment grew by about 1.6 million people.²³⁸ Additionally, Medicaid covers a much more inclusive population of adults and children, and is reimbursed at a lower FMAP.²³⁹

Although Medicaid physician reimbursement rates were increased dramatically in 1993 as a result of the Frew lawsuit, Texas lawmakers have begun to reduce rates to close recent, and anticipated, state budget deficits.²⁴⁰ During the most recent legislative session,

²³⁷ Connie Berry, interview by author, April 24, 2012.

²³⁸ Texas Health and Human Services Commission, *Texas Medicaid and CHIP in Perspective*, p. 2-2.

²³⁹ *Ibid*, p. 4-14.

²⁴⁰ *Ibid*, p. 1-11.

Medicaid reimbursement rates were decreased by 1%.²⁴¹ Primary care physicians are already hesitant to enroll in Medicaid at current reimbursement levels: reducing rates will only lower enrollment and worsen patient outcomes. Additionally, low Medicaid rates may serve as a deterrent to Texas medical students who are choosing a residency program. Since a majority of physicians choose to practice close to where they completed their residency training, state Medicaid rates could potentially make Texas a less attractive place to practice primary care, sending Texas-trained medical students elsewhere to practice medicine.

Recommendation 1: Support Increased Medicaid Reimbursement Rates with a Quality Assurance Fee and 1115 Demonstration Waiver

Texas will face considerable financial challenges implementing the PPACA, especially the new policies pertaining to Medicaid. After the federal financial commitment to newly enrolled Medicaid clients begin to decrease, Texas will need to take steps to increase revenue to maintain service levels and remain in compliance. One component of the PPACA Texas should consider extending is higher reimbursement rates for primary care physicians seeing Medicaid patients. As was previously mentioned, one of the main reasons primary care physicians do not enroll in Medicaid is due to the low reimbursement rates they receive for providing services to these patients. Maintaining

²⁴¹ American Medical Association, "Section 2: Texas Medicaid Reimbursement," in *Texas Medicaid Physician Procedures Manual: Vol. 1*, http://www.tmhp.com/tmppm/2011/Vol1_02_Texas_Medicaid_Reimbursement.pdf.

higher reimbursement rates will incentivize physicians to see Medicaid patients, while also helping to close the primary care physician salary gap.

However, Texas is already struggling to support its booming Medicaid program, and without new revenue, these Medicaid incentives will likely be eliminated. The state's current political climate will not support an increase in taxes on individuals to support this program; therefore, an innovative solution must be adopted to raise the requisite revenue in the form of a new Quality Assurance Fee.

Proposed by the Task Force for Access to Health Care in Texas in 2006, the Quality Assurance fee is a new 3% tax assessed on all hospitals and free standing surgery centers.²⁴² According to the 2006 projections, this fee is estimated to produce about \$1.1 billion in state general revenue, money that is eligible for a federal matching grant if used for Medicaid.²⁴³ As of 2006, 35 states were using quality assurance fees to bring in additionally state revenue and federal dollars.²⁴⁴ To maximize the impact on Texas' physicians and patients, the revenue generated by the quality assurance fee should be used first and foremost to maintain reimbursement rates at Medicare levels beyond the year 2014. Assessing a quality assurance fee will allow the state to continue to support its primary care physicians, resulting in better patient outcomes for its growing Medicaid population.

Another possible funding mechanism for maintaining higher Medicaid reimbursement rates is the 1115 Demonstration Waiver. The purpose of the 1115

²⁴² Access to Health Care in Texas, *Code Red: The Critical Condition of Health in Texas* (n.p., 2006), p. 172.

²⁴³ *Ibid*, p. 173.

²⁴⁴ *Ibid*, p. 172.

Demonstration Waiver is to allow states an opportunity to design and operate their Medicaid program using innovative approaches that do not meet federal program rules.²⁴⁵ Texas was approved for a 1115 Demonstration Waiver in late 2011, and will eligible to run its pilot project through September 30, 2016.²⁴⁶ The primary aim of the Waiver is to help expand risk-based Medicaid managed care to all of Texas.²⁴⁷ The savings associated with successful Medicaid managed care expansion will then be funneled into two new funding pools: the Uncompensated Care (UC) Pool and the Delivery System Reform Incentive Payment (DSRIP) Pool.²⁴⁸ Federal matching funds for the Pools may double to as much as \$17.4 billion over the course of the five-year eligibility period.²⁴⁹

The UC Pool will help defray the costs of uncompensated care in Texas while the DSRIP Pool will provide incentives for collaborative efforts in pursuit of three goals: better healthcare for individuals, better healthcare for the population and lower health care costs through improvement of the overall system.²⁵⁰ Maintaining higher Medicaid reimbursement rates for physicians is an effort aligned with the aims of the DSRIP Pool; therefore, policy should mandate that some of the funds from the DSRIP Pool go to continuing the higher Medicaid reimbursement rates for physicians put in place by the PPACA.

²⁴⁵ The Kaiser Commission on Medicaid and the Uninsured, "The New Review and Approval Process Rule for Section 1115 Medicaid and CHIP Demonstration Waivers," The Kaiser Commission on Medicaid and the Uninsured, last modified March 20, 2012, <http://www.kff.org/medicaid/8292.cfm>.

²⁴⁶ Access to Health Care in Texas, *Code Red: The Critical Condition of Health in Texas 2012* (n.p., 2012), p.1.

²⁴⁷ *Ibid.*, p .3.

²⁴⁸ *Ibid.*

²⁴⁹ *Ibid.*

²⁵⁰ *Ibid.*, p. 4.

POLICY CONSIDERATION: INCREASE PRIMARY CARE EDUCATION INCENTIVES

The American Medical Association (AMA) recommends expanding and protecting the NHSC and state level repayment programs as a way to reduce medical school debt.²⁵¹

Recommendation 2: Reinstate Funding for the Texas PELRP

In the face of a \$28 billion budgetary shortfall, all funding for the PELRP was suspended during the 82nd legislature.²⁵² The PELRP has been proven effective at recruiting physicians to underserved areas, and retaining them beyond their initial service obligation. It is a valuable tool that can bring primary care services to some of the neediest people in Texas; therefore, funding should be re-appropriated during the 83rd legislative session in 2013.

Barring any major changes, it is unlikely that the state will be able to afford any new financial commitments during the 83rd legislative session; the success of the PELRP rests on creating new general revenue. One new financial mechanism that could be used to support the re-appropriation of the PELRP is a new tax assessed on cigars. Currently, non-cigarette tobacco products, including snuff, chewing tobacco and cigars, are taxed

²⁵¹ American Medical Association, "Medical Student Debt," American Medical Association, <http://www.ama-assn.org/ama/pub/about-ama/our-people/member-groups-sections/medical-student-section/advocacy-policy/medical-student-debt/background.page>.

²⁵² Connie Berry and Sharmaine Key, interview by author, Texas Primary Care Office, March 26, 2012.

using different metrics.²⁵³ States generally tax cigars at lower rates than other tobacco products, something that has negative effects on a state's population as well as its pocketbook.²⁵⁴ Texas was able to significantly increase funding for the PELRP by re-designing the tax structure for smokeless tobacco products in 2009. Texas lawmakers should examine the financial impact of increasing taxes on cigars as a possible funding mechanism for re-appropriation of the PELRP.

REDIRECT STATE GME GRANTS TO PROGRAMS SUPPORTING PRIMARY CARE

Efforts are being made by state medical schools, as well as the federal government, to expand opportunities for primary care graduate medical education. The innovative ideas taking shape within Texas' borders, as well as new GME investments dedicated in the PPACA, reflect the nation's growing commitment to closing the primary care physician shortage. To ensure that Texas' GME funding is reflecting the needs of its population, policymakers should redistribute GME funding to programs that train primary care physicians.

Recommendation 3: Reinvest GME Funds in Primary Care Education

During the first three years of residency, physicians are generally unable to cover the costs associated with their training and rely on the financial support they receive from

²⁵³ Campaign for Tobacco-Free Kids, "State Excise Tax Rates for Non-Cigarette Tobacco Products," Campaign for Tobacco-Free Kids, last modified March 6, 2012, <http://www.tobaccofreekids.org/research/factsheets/pdf/0169.pdf>.

²⁵⁴ Campaign for Tobacco-Free Kids, "How to Make State Cigar Taxes Fair and Effective," Campaign for Tobacco-Free Kids, last modified June 7, 2011, <http://www.tobaccofreekids.org/research/factsheets/pdf/0335.pdf>.

their programs.²⁵⁵ However, during years four through seven, physicians generate positive income through their practice activities.²⁵⁶ Primary care physicians only spend three years in residency while other specialists can spend up to seven years in residency. Currently, Texas appropriates GME funds without regard for this fact, essentially funding medical students who are financially stable, and who, in all likelihood, will make far more money practicing medicine than primary care physicians. Texas should adopt a GME policy that is cognizant of this disparity by giving funding priority to students practicing in their first three years of residency. This will ensure that all primary care physicians are supported through residency, and will remove the inherent bias in favor of subspecialists that exists in the current GME formulas.

²⁵⁵ Texas Academy of Family Physicians, *GME Formula Funding Strategies for Primary Care - HB 1* (Austin: Texas Academy of Family Physicians, 2010), p. 1.

²⁵⁶ *Ibid.*

References

- Access to Health Care in Texas. *Code Red: The Critical Condition of Health in Texas*. N.p., 2006.
- Access to Health Care in Texas. *Code Red: The Critical Condition of Health in Texas 2012*. N.p., 2012.
- American Medical Association. "Medical Student Debt." American Medical Association. <http://www.ama-assn.org/ama/pub/about-ama/our-people/member-groups-sections/medical-student-section/advocacy-policy/medical-student-debt/background.page>.
- . "Section 2: Texas Medicaid Reimbursement." In *Texas Medicaid Provider Procedures Manual: Vol. 1*. http://www.tmhp.com/tmppm/2011/Vol1_02_Texas_Medicaid_Reimbursement.pdf.
- Association of American Medical Colleges. "The Impact of Health Care Reform on the Future Supply and Demand for Physicians Updated Projections Through 2025." Association of American Medical Colleges. https://www.aamc.org/download/158076/data/updated_projections_through_2025.pdf.
- Berry, Connie. Interview by author, April 24, 2012.
- Berry, Connie, and Sharmaine Key. Interview by author, Texas Primary Care Office, March 26, 2012.
- Bodenheimer, Thomas, MD, Robert A. Berenson, MD, and Paul Rudolf, MD, JD. "The Primary Care-Specialty Income Gap: Why it Matters." *Annals of Internal Medicine* 46, no. 4 (2007): 301-306. <http://www.annals.org/content/146/4/301.abstract>.
- Brown, David. "On the Front Lines: How Medical Practice Will Change." In *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all*, 135-143. New York: Public Affairs, 2010.
- Campaign for Tobacco-Free Kids. "How to Make State Cigar Taxes Fair and Effective." Campaign for Tobacco-Free Kids. Last modified June 7, 2011. <http://www.tobaccofreekids.org/research/factsheets/pdf/0335.pdf>.

- . “How to Make State Cigar Taxes Fair and Effective.” Campaign for Tobacco-Free Kids. Last modified June 7, 2011. <http://www.tobaccofreekids.org/research/factsheets/pdf/0335.pdf>.
- . “How to Make State Cigar Taxes Fair and Effective.” Campaign for Tobacco-Free Kids. Last modified June 7, 2011. <http://www.tobaccofreekids.org/research/factsheets/pdf/0335.pdf>.
- . “State Excise Tax Rates for Non-Cigarette Tobacco Products.” Campaign for Tobacco-Free Kids. Last modified March 6, 2012. <http://www.tobaccofreekids.org/research/factsheets/pdf/0169.pdf>.
- Center for Workforce Studies. *2011 State Physician Workforce Data Book*. https://www.aamc.org/download/.../data/state_databook_update.pdf.
- Centers for Medicare and Medicaid Services. “Fee for Service Delivery System.” Medicaid.gov. <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Fee-for-Service.html>.
- . “Managed Care.” Medicaid.gov. <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Managed-Care/Managed-Care.html>.
- . “Medicaid Benefits.” Medicaid.gov. <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Medicaid-Benefits.html>.
- . “Premiums, Copayments and Other Cost Sharing.” Medicaid.gov. <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Cost-Sharing/Cost-Sharing.html>.
- . “Rural Health Clinic (RHC) and Federally Qualified Health Center (FQHC) Services.” In *Medicare Benefit Policy Manual*. <http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/bp102c13.pdf>.
- . “Delivery Systems.” Medicaid.gov. <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Delivery-Systems.html>.
- Conway, Craig A., J.D. “The Physician Shortage Problem in Texas.” *Health Law Perspectives* (July 2010). <http://www.law.uh.edu/healthlaw/perspectives/homepage.asp>.

Council on Graduate Medical Education. *Advancing Primary Care*. 20. Accessed March 25, 2012. <http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/twentiethreport.pdf>.

Ellis, Cindy. Interview by author, April 29, 2012.

———. “National Health Service Corps.” Lecture, University of Texas Medical Branch, Galveston, TX, October 12, 2011.

The Federal Interagency Forum on Aging-Related Statistics. *Older Americans 2010: Key Indicators of Well-being*. http://www.agingstats.gov/agingstatsdotnet/main_site/default.aspx.

Federally Designated Primary Care Health Professional Shortage Areas as of March 23, 2011. Map. Texas Department of State Health Services. Accessed March 24, 2012. <http://www.dshs.state.tx.us/chs/hprc/hpsa.shtm>.

Goldstein, Amy. “The Medicare Changes: Dollars and Doughnuts.” In *Landmark: The Inside Story of America’s New Health-Care Law and What it Means for Us all*, 113-121. New York: Public Affairs, 2010.

———. “Priority One: Expanding Coverage.” In *Landmark: The Inside Story of America’s New Health-Care Law and What it Means for Us all*, 73-83. New York: Public Affairs, 2010.

HealthCare.gov. “Fact Sheet: Creating Jobs and Increasing the Number of Primary Care Providers.” HHealthReform.gov. <http://www.healthreform.gov/newsroom/primarycareworkforce.html>.

Health Resources and Services Administration. *Designated Health Professional Shortage Areas Statistics*. http://ersrs.hrsa.gov/ReportServer?/HGDW_Reports/BCD_HPSA/BCD_HPSA_SCR50_Smry&rs:Format=HTML3.2.

———. “Primary Medical Care HPSA Designation Overview.” Health Resources and Services Administration. <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primarycarehpsaoverview.html>.

———. “Shortage Designation: Health Professional Shortage Areas & Medically Underserved Areas/Populations.” Health Resources and Services Administration. <http://bhpr.hrsa.gov/shortage/index.html>.

The Kaiser Commission on Medicaid and the Uninsured. "The New Review and Approval Process Rule for Section 1115 Medicaid and CHIP Demonstration Waivers." The Kaiser Commission on Medicaid and the Uninsured. Last modified March 20, 2012. <http://www.kff.org/medicaid/8292.cfm>.

Kaiser Family Foundation. "Implementation Timeline." In *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all*, 70-71. New York: Public Affairs, 2010.

———. "Primary Care Shortage." [kaiseredu.org](http://www.kaiseredu.org). Last modified April 2011. <http://www.kaiseredu.org/Issue-Modules/Primary-Care-Shortage/Background-Brief.aspx>.

———. "Texas: Total CHIP Expenditures, FY2009." [statehealthfacts.org](http://www.statehealthfacts.org). <http://www.statehealthfacts.org/profileind.jsp?ind=235&cat=4&rgn=45>.

Kilmer, Marc. "Reforming How we Reimburse Doctors." *The Maryland Journal* 1 (2011). <http://marylandjournal.org/publications/detail/reforming-how-we-reimburse-doctors>.

Krenek, David. Interview by author, Texas Primary Care Office, March 7, 2012.

MacGillis, Alec. "The Best, the Worst, the Future." In *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all*, 65-69. New York: Public Affairs, 2010.

———. "The Individual Mandate: How it Will Work." In *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all*, 85-92. New York: Public Affairs, 2010.

McBeath, Don. Interview by author, March 16, 2012.

Medicare Physician Payment Formula. Chart. National Health Policy Forum. Accessed March 24, 2012. http://www.nhpf.org/library/the-basics/Basics_SGR_06-21-11.pdf.

Missouri Dept. of Health and Senior Services. "HPSA Frequently Asked Questions." Missouri Dept. of Health and Senior Services. <http://health.mo.gov/living/families/primarycare/faq.php>.

Montgomery, Lori. "Paying for It: Taxes, Penalties and Spending Cuts." In *Landmark: The Inside Story of America's New Health-Care Law and What it Means for Us all*, 169-178. New York: Public Affairs, 2010.

National Association of Community Health Centers. *Primary Care Access: An Essential Building Block of Health Reform*. <http://www.nachc.com/client/documents/pressreleases/PrimaryCareAccessRPT.pdf>.

National Association of Insurance and Financial Advisors - Texas. "Texas Legislators Hear from Officials on PPACA." National Association of Insurance and Financial Advisors - Texas. Accessed March 26, 2012. Last modified February 28, 2012. <http://www.naifa-texas.org/news/240-texas-legislators-hear-from-officials-on-ppaca>.

Nelson, Jonathan. "Budget slashes 80 percent of support for programs designed to increase primary care physician workforce." Texas Academy of Family Physicians. <http://www.tafp.org/news/tfp/summer-2011/workforce-cuts>.

O'Brien, John S. "HB2154 by Edwards (Relating to Physician Education Loan Repayment Program) as passed 2nd house." John S. O'Brien to Joe Strauss Hon., May 28, 2009. In *Fiscal Note, 81st Legislative Regular Session*.

Pecquet, Julian. "Med schools see record number of applicants." *The Hill*, November 22, 2011. <http://thehill.com/blogs/healthwatch/medicare/195069-med-schools-see-record-number-of-applicants>.

Rittenhouse, Diane R., MD, MPH, Robert L. Phillips, Jr., MD, MSPH, George E. Fryer, Jr., PhD, Thomas Miyoshi, MSW, Christine Neilsen, David C. Goodman, MD, MS, and Kevin Grumbach, MD. "Impact of Title VII Training Programs on Community Health Center Staffing and National Health Service Corps Participation." *Annals of Family Medicine* 6, no. 5 (September-October 2008): 397-405.

The Robert Graham Center. *Specialty and Geographic Distribution of the Physician Workforce: What Influences Medical Student & Resident Choices?* <http://www.graham-center.org/online/etc/medialib/graham/documents/publications/mongraphs-books/2009/rgcmo-specialty-geographic.Par.0001.File.tmp/Specialty-geography-compressed.pdf>.

Senate Research Center. *Bill Analysis C.S.H.B. 2154*. N.p., 2009.

State Health Access Data Assistance Center. "State Profiles: Texas." State Health Access Data Assistance center. <http://www.shadac.org/state/tx#1>.

- Steinwald, A. Bruce. "The Basics: Medicare's Sustainable Growth Rate." National Health Policy Forum. Accessed March 24, 2012. Last modified June 21, 2011. http://www.nhpf.org/library/the-basics/Basics_SGR_06-21-11.pdf.
- Stoever, Jane. "Health Improves in Areas NHSC Staffs, Says Study." AAFP News Now. Last modified July 11, 2005. <http://www.aafp.org/online/en/home/publications/news/news-now/archive/nhscstaff.html>.
- . "NHSC Clinicians Seem to Attract Non-NHSC Colleagues." AAFP News Now. Last modified November 3, 2006. <http://www.aafp.org/online/en/home/publications/news/news-now/clinical-care-research/20061103nhsc.html>.
- Texas Academy of Family Physicians. *Family Medicine Residency Programs are Critical in Training Texas' Physician Workforce*. Issue Brief: Improving Texas' Primary Care Physician Workforce. <http://www.tafp.org/Media/Default/Downloads/advocacy/gme.pdf>.
- . *Family Medicine Residency Programs are Critical in Training Texas' Physician Workforce*. Issue Brief: Improving Texas' Primary Care Physician Workforce. <http://www.tafp.org/Media/Default/Downloads/advocacy/gme.pdf>.
- . *GME Formula Funding Strategies for Primary Care - HB 1*. Austin: Texas Academy of Family Physicians, 2010.
- . "Texas Physician Education Loan Repayment Program." Texas Academy of Family Physicians. Last modified June 27, 2011. <http://v1.tafp.org/students/resources/loanRepayment.asp>.
- . "Texas Physician Education Loan Repayment Program." Texas Academy of Family Physicians. Last modified June 27, 2011. <http://v1.tafp.org/students/resources/loanRepayment.asp>.
- Texas Comptroller of Public Accounts. "Demographics." Window on State Government. <http://www.window.state.tx.us/specialrpt/tif/population.html>.
- . *Report on the Physician Education Loan Repayment Program-2010*. Special Report. <http://www.window.texas.gov/specialrpt/hb1420/PhysicianLoanRepay2010.pdf>.
- Texas Department of State Health Services. "Texas Primary Care Office Information." Primary Care Office. Last modified April 13, 2012. http://www.dshs.state.tx.us/chpr/tpco_info.shtm.

- Texas Health and Human Services Commission. *Texas Medicaid and CHIP in Perspective*. Austin: Texas Health and Human Services Commission, 2011.
- Texas Higher Education Coordinating Board. "Physician Education Loan Repayment Program." Texas Higher Education Coordinating Board. <http://www.hhloans.com/index.cfm?ObjectID=A85AA8AA-0CD1-EDD4-D9379C7C084059FB>.
- Texas Medical Association. "Higher Education Funding Slashed in 2012-13 State Budget Plan." State Funding Allotted for GME/Physician Loan Repayment Program. <http://www.texmed.org/Template.aspx?id=21721>.
- . "The Uninsured in Texas." Texas Medical Association. <http://www.texmed.org/template.aspx?id=5517>.
- Texas Tech Health Sciences Center. "Primary Care Physician Shortage: Texas Tech University Health Sciences Center Has the Solution." *PRWeb*, July 12, 2011. <http://www.prweb.com/releases/2011/7/prweb3763794.htm>.
- Texas Tech University Health Sciences Center. *Primary Care Shortage...TTUHSC has the Primary Solution*. <http://ww1.prweb.com/prfiles/2011/04/27/3763794/FMatPRFinal.pdf>.
- Texas Tech University Health Sciences Center School of Medicine. "F-MAT Frequently Asked Questions." Texas Tech University Health Sciences Center. Last modified 2012. <http://www.ttuhschool.edu/som/fammed/fmat/fmatfaq.aspx>.
- . "On the Fast Track: FMAT Program Receives \$1.5 Million Federal Grant." TTUHSC News. <http://www.ttuhschool.edu/newsevents/2010/october/fmatGrant.aspx>.
- U.S. Census Bureau. "Texas." State and County Quickfacts. <http://quickfacts.census.gov/qfd/states/48000.html>.
- . "Texas Census 2010 Population." Texas Dept. of State Health Services. Last modified September 2, 2011. <http://www.dshs.state.tx.us/chs/popdat/Census-2010/>.
- U.S. Department of Health and Human Services. "About Us." National Health Service Corps. US Department of Health and Human Services, "Loan Repayment," National Health Service Corps, <http://nhsc.hrsa.gov/loanrepayment/index.html>.
- . "Full-Time Program." National Health Service Corps. <http://nhsc.hrsa.gov/loanrepayment/fulltimeprogram/index.html>.

- . “Home.” National Health Service Corps. <http://nhsc.hrsa.gov/index.html>.
- . “Loan Repayment.” National Health Service Corps. <http://nhsc.hrsa.gov/loanrepayment/index.html>.
- . “Scholarships.” National Health Service Corps. <http://nhsc.hrsa.gov/scholarships/index.html>.