

25+ Years

Oklahoma Physician Manpower Training Commission

Oklahoma Physician Manpower Training Commission

Charter Commissioners

| | | |
|------------------------|-----------|---------|
| Olen D. Berrong | Clinton | 1975-77 |
| Fred D. Cormack | Cherokee | 1975-81 |
| Billy D. Dotter, MD | Okeene | 1975-89 |
| J. Scott Hickerson, DO | Cleveland | 1975-81 |
| C. S. Lewis, Jr., MD | Tulsa | 1975-85 |
| Jack W. Parrish, MD | Seminole | 1975-79 |
| David W. Simpson, DO | Atoka | 1975-76 |

Past Commissioners

| | | |
|---------------------------|---------------|---------|
| John D. McCuiston, DO | Madill | 1976-90 |
| Fayne Lindsey | Holdenville | 1977-78 |
| Francis Hollingsworth, MD | El Reno | 1980-91 |
| Helen Virgin | Moore | 1980-88 |
| Rudolph J. Wolf, DO | Skiatook | 1981-92 |
| A. J. Rexroat | Aline | 1983-90 |
| Morris Gunn, MD | Oklahoma City | 1985-88 |
| Janet Hardin | Enid | 1988-01 |
| Malcom Mollison, MD | Altus | 1988-95 |
| William Simon, MD | Enid | 1989-93 |
| Jerry B. Earnest | Madill | 1990-93 |
| F. Daniel Duffy, MD | Tulsa | 1993-96 |
| Terry Burge, MD | Nowata | 1996-98 |
| W. Michael Woods, MD | Ramona | 2001-01 |

Past Directors

| | | |
|----------------------|--------------------|---------|
| Terry R. Boucher | Executive Director | 1975-78 |
| Ralph O. Morgan, Jr. | Executive Director | 1978-87 |
| Don K. Leavitt | Executive Director | 1987-91 |

Current Commissioners

| | | |
|-------------------------|-------------|-------|
| Kenneth Whittington, MD | Bethany | 1991- |
| David Hitzeman, DO | Jenks | 1992- |
| Ray Stowers, DO | Jenks | 1992- |
| Edward C. Warren | Muskogee | 1993- |
| John M. Huser, MD | Weatherford | 1995- |
| JoAnn Carpenter, MD | Ada | 1998- |
| Wayne McCombs | Claremore | 2001- |

2001 Staff

| | |
|--------------------|-----------------------------------|
| Rick Ernest | Executive Director |
| James R. Bishop | Deputy Executive Director |
| Cindy A. Carter | Executive Secretary |
| Charlotte K. Jiles | Physician Placement Coordinator |
| Margaret Wines | Nursing Scholarship Administrator |
| Michelle Cecil | Secretary |

Front cover: Stephen Woodson, DO, serving in Stigler, Oklahoma (pop 2,470). Dr. Woodson is a 1980 graduate of the OSU College of Osteopathic Medicine. Photo credit 2000, Kevin Stephens.

• TWENTY-FIVE+ YEARS •
OKLAHOMA PHYSICIAN MANPOWER TRAINING COMMISSION



The enactment of Medicare and Medicaid (1965) created a sudden and significant national demand for medical services that the existing physician workforce could not meet. This demand was especially acute in non-metropolitan areas and in the primary care specialties, particularly in the emerging specialty of Family Medicine. The federal government, and several state governments, adopted policies and programs to create a greater supply of physicians to meet that demand.

A national response was the creation of the National Health Service Corps (NHSC) in 1971. "The National Health Service Corps is a program of the Federal Health Resources and Services Administration's Bureau of Primary Health Care, which is the focal point for providing primary health care to underserved and vulnerable populations.

The mission of the NHSC is to increase access to primary care services and reduce health disparities for people in health professional shortage areas by assisting communities through site development and by the preparation, recruitment and retention of community-responsive, culturally competent primary care clinicians."¹

Oklahoma's public policy response was to create a state financed and operated primary care physician production system.

The cornerstone of the system was the creation of the Oklahoma Physician Manpower Training Commission (PMTTC) in 1975.

The Legislature also established a College of Osteopathic Medicine; created a primary care oriented branch of the University of Oklahoma (OU) College of Medicine; established non-metropolitan residency training sites; and encouraged the growth of primary care & Family Medicine residency programs.

OKLAHOMA LEGISLATURE

§697.1. Legislative Intent

The Legislature recognizes that there is a need to upgrade the availability of health care services for people of Oklahoma, and thus, there is a need to improve the balance of physician manpower distribution in the state both by type of practice and by geographic location. Furthermore, the Legislature recognizes the need to accommodate the increasing number of graduates from the medical and osteopathic colleges of Oklahoma by retaining their services as practicing physicians in the state and by attracting graduates from schools outside the state.

Therefore, it is the intent of the Legislature to increase the number of internship and residency programs offered for the training of physicians throughout the state through the sharing by the state of the costs of such internships and residencies with hospitals and other clinical residency training establishments. These programs shall be designed primarily to emphasize the training of primary health care and family practice physicians and to develop manpower programs to service directly the rural and non-metropolitan areas of the state.

§625.2. Scholarships - Power to grant

The Physician Manpower Training Commission shall be authorized and empowered to grant scholarships to qualified students who are bona fide residents of the State of Oklahoma and who would not otherwise have funds necessary to finance the cost of a program of study leading to the Degree of Doctor of Medicine, or to the Degree of Doctor of Osteopathic Medicine, to be granted by an accredited and recognized college of medicine or college of osteopathic medicine.

MICHAEL LAPOLLA, DIRECTOR
OKLAHOMA STATE UNIVERSITY CENTER FOR HEALTH SCIENCES
CENTER FOR HEALTH POLICY RESEARCH

LORI RYAN, RESEARCH ASSISTANT
OKLAHOMA STATE UNIVERSITY CENTER FOR HEALTH SCIENCES
CENTER FOR HEALTH POLICY RESEARCH

EDWARD N. BRANDT, JR., MD, DIRECTOR
UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER
CENTER FOR HEALTH POLICY RESEARCH & DEVELOPMENT

As of 1996, there were 82 state-operated physician scholarship, loan forgiveness and related programs being operated in 41 separate states. More than 50% of these programs were established between 1990-1996. Many of the programs in other states also include nursing and allied health professionals. ²

Oklahoma offers a nationally unique set of coordinated programs and residency program support. Only Oklahoma offers state funded incentive programs targeted at medical students, residents and practicing physicians ³ (see maps on page 3). Additionally, Oklahoma offers generous support to primary care residency programs, and a nursing scholarship assistance effort. All of the Oklahoma programs are financed and directed by the Oklahoma Physician Manpower Training Commission. Oklahoma is clearly a national leader in this area of health policy, in experience, scope and results.

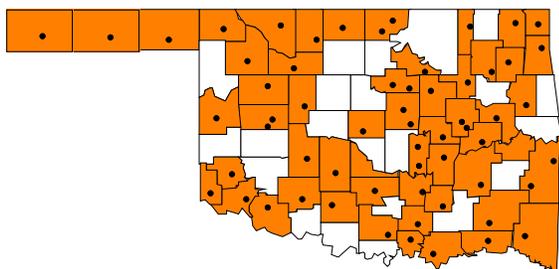
The PMTC is the fiscal catalyst of Oklahoma's system. This system has apparently served Oklahoma well as measured by the number and placement of its products.

Several generations of lawmakers, policy makers and elected officials have come and gone. The health care landscape has changed radically. There is clearly a need for this comprehensive assessment of the results of this 25 year effort.

This assessment is intended to quantify the outputs and to provide data and analysis for consideration as state policy makers look forward another 25 years.

COMMUNITIES SEEKING PHYSICIANS

SOURCE: PHYSICIAN MANPOWER TRAINING COMMISSION
 SPRING-SUMMER 2001 PHYSICIAN PRACTICE OPPORTUNITIES LIST
 NOTE: THIS MAP IS A "SNAPSHOT" OF OKLAHOMA COMMUNITIES SEEKING PHYSICIANS AS OF SPRING-SUMMER 2001.



DATA SOURCES

Except where otherwise noted, all data presented have been provided by the professional staff of the Oklahoma Physician Manpower Training Commission, and the Physician Manpower Training Commission 2001 Annual Report (June 30, 2001).

Some of this analysis quantifies physician locations and years of service in a community. It is believed that the PMTC data base is substantially correct. However, there may be a few instances where there has been physician movement beyond PMTC knowledge. This may effect the economic impact of very small communities.

The names of the PMTC programs are confusing. There is a simple way to consider the programs. The Commission offers assistance and incentives to physicians at the three levels of professional education and training. Programs are offered for medical students, Family Medicine residents and licensed primary care physicians, either entering practice or relocating. (Note: The term medical student refers to students in both osteopathic and allopathic medical schools).

The nursing program has two components. One is a scholarship to nursing students; the other is a matching scholarship program where a health care organization shares the scholarship cost with the PMTC.

Medical Student Incentives

The PMTC program name is Oklahoma Rural Medical Education Scholarship Loan Program. It is a program restricted to medical students; the purpose of the funds is to offset medical school expense.

Resident Physician Incentives

The PMTC program name is Family Practice/General Practice Resident Rural Scholarship Program. It is a program restricted to Family Medicine resident physicians; and the purpose of the funds is to offset living expense while in residency training.

Practicing Physician Incentives

The PMTC program name is Physician Community Match Program. It is a program restricted to licensed physicians prepared to establish a full-time practice; the purpose of the funds is to offset incurred debt while building a practice.

Nursing Scholarships

The PMTC program name is Nursing Student Assistance Program. It is a program restricted to nursing students who have been unconditionally admitted to an accredited program of study; the purpose of the funds is to provide assistance to students interested in serving Oklahoma communities, particularly rural areas.

STATE PROGRAMS

41 STATES
OFFER AT LEAST ONE
STATE FINANCED INCENTIVE PROGRAM



14 STATES
OFFER STUDENT AND RESIDENT
STATE FINANCED INCENTIVE PROGRAMS



ONE STATE
OFFERS STUDENT, RESIDENT AND PRACTICING
PHYSICIAN STATE FINANCED INCENTIVE PROGRAMS



Pathman, Taylor and Konrad performed an extensive survey of state scholarship, loan forgiveness and related programs as of 1996.⁴ Their summary findings are below:

Since the 1970's, 41 states have created some combination of student and physician scholarships and loan programs. Almost every program was created to meet the needs of that state. All the programs were created with full knowledge that the federal government also would be conducting similar efforts.

There are 29 states that offer a joint federal-state program. Of these, 24 offer them along with programs funded solely by the state; and five (California, Colorado, Connecticut, Rhode Island and Michigan) only offer the joint program. These five states are not included in the accompanying maps as this analysis is restricted to state-only programs.

In the United States, there are three states that do not offer any version of a physician incentive program.

In their summary, they note that there are 82 programs operating in 41 states. There are 29 loan repayment programs, 29 scholarship programs, 11 loan programs, eight direct financial incentive programs and five resident support programs.

Generic Types of State Assistance Programs ⁴

Medical Student Scholarship

Funds students for tuition, fees, books and living expenses, with service expected after training. (29 states, including Oklahoma)

Medical Student Loan

Loans to students for tuition, fees, books and living expenses; loan is repaid after training either financially or by providing service. (11 states)

Resident Physician Support

Unrestricted funds for junior and, occasionally, senior residents, with service expected after training. (5 states, including Oklahoma)

Resident Physician Loan Repayment

Funds to repay outstanding educational loans of graduating residents and practitioners in exchange for service. (29 states)

Direct Financial Incentive

Unrestricted incentive funds for graduating residents and practitioners in exchange for service. (8 states, including Oklahoma)

THE OKLAHOMA COMMISSION

The Oklahoma Physician Manpower Training Commission (PMTC) was established by the Legislature in 1975. The primary mission of the PMTC was, and remains, to increase the number of practicing physicians and nurses in Oklahoma, particularly in rural and underserved areas in the state. The Commission was created to administer three programs in Oklahoma:

- Rural Medical Education Scholarship Loan Program
- Community Physician Education Scholarship Loan Program
- Intern-Resident Cost Sharing Program

The Legislature subsequently has added the responsibilities of a Physician Placement Program, a Nursing Student Assistance Program and Community Match Incentive Programs (see Appendix 1 for a policy timeline graphic). The Physician Manpower Training Commission has stated five goals. They are:

- Work to improve the balance of physician manpower distribution in Oklahoma, both by type of practice and by geographic location;
- Aid accredited physician-training facilities in the establishment of additional primary medical care and family practice internship and residency training programs by sharing the cost of these programs;
- Assist Oklahoma communities in selecting and financing qualified allopathic (MD) and osteopathic (DO) interns and residents, and other duly licensed physicians to participate in the Physician Community Match Program;
- Assist Oklahoma communities with contacting allopathic and osteopathic students, interns and residents, or other physicians (in-state and out-of-state) who might consider practicing in Oklahoma; and
- Work with Oklahoma communities and the leadership of Oklahoma's nurse training institutions to provide nurses for underserved areas of the state.

The Commission collaborates with the Oklahoma State Regents for Higher Education, the University of Oklahoma College of Medicine, the University of Oklahoma College of Medicine-Tulsa, the Oklahoma State University College of Osteopathic Medicine, Oklahoma's nurse training institutions and other agencies and individuals interested in health care in Oklahoma.

ISSUE DISCUSSIONS

This section will provide detailed discussion of the following areas of interest and concern:

- Family Medicine Residency Support
- Physician Scholarships and Loans
- Economic Impacts
- Nursing Scholarships and Loans
- Survey of PMTC Recipient Physicians

Issue Discussion

FAMILY MEDICINE RESIDENCY PROGRAMS



The PMTC has two overarching missions. One is to provide incentive scholarships and physician placement assistance. The second is to be the primary revenue stream for the public sector Family Medicine residency programs. The public residency programs are operated by the University of Oklahoma and Oklahoma State University and osteopathic internships are operated by selected community hospitals.

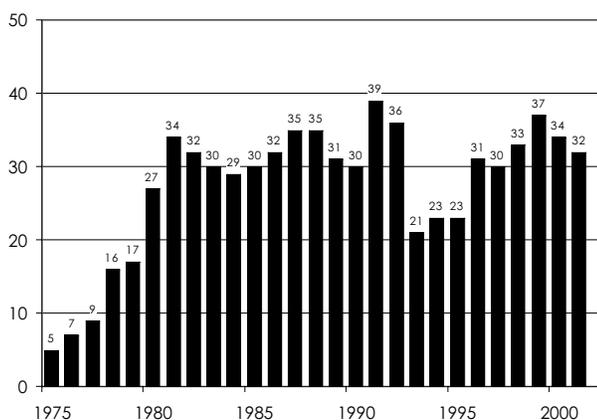
The purpose of PMTC was to accelerate the production of primary care physicians who would serve non-metro and underserved areas. At the same time, Family Medicine was established as a separate “specialty” within medicine. Postgraduate training programs were being established nationally. The major impediment to the growth of these programs was the federal government’s prohibition on paying educational expenses for training performed outside of hospitals; precisely where the Family Medicine training was taking place.

The state of Oklahoma determined that the most likely physicians to serve in rural areas were Family Medicine physicians; that federal policy precluded the rapid expansion of such programs; and that such programs would be the primary reason to establish additional state medical education programs.

This assumption was borne out by the Council on Graduate Medical Education (COGME 1994). That group said, “Family physicians are ... five times as likely as general internists or general pediatricians to practice in non-metropolitan areas. Further, family practitioners are the only physicians among all specialties who are as likely to settle in nonmetropolitan areas as is the general population.”⁵

FIGURE 1
FAMILY MEDICINE RESIDENCY GRADUATES BY YEAR
STATE OF OKLAHOMA UNIVERSITY-BASED PROGRAMS

INCLUDES GRADUATES OF ALL PUBLICLY FUNDED FAMILY MEDICINE RESIDENCY PROGRAMS IN OKLAHOMA INCLUDING: UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE (OKC AND TULSA), ENID, SHAWNEE, BARTLESVILLE, RAMONA; OKLAHOMA STATE UNIVERSITY COLLEGE OF OSTEOPATHIC MEDICINE (TULSA AND DURANT). DOES NOT INCLUDE OSTEOPATHIC INTERNSHIP PROGRAMS. SEE APPENDIX 9 FOR PROGRAM DETAIL.



Primary Care Physicians

... the Oklahoma percentage [percent of physicians in primary care specialties] is 41%. That is the second most favorable state percentage in the country ... and meets federal goals established 15 years ago ...

Family Physicians

"Family physicians are ... five times as likely as general internists or general pediatricians to practice in non-metropolitan areas. Further, family practitioners are the only physicians among all specialties who are as likely to settle in nonmetropolitan areas as is the general population." ⁵

Given these assumptions, the Oklahoma Legislature opted to provide significant sums of state appropriations to Family Medicine residency programs. The PMTC was the vehicle chosen to distribute these funds directly to the universities sponsoring the programs. The PMTC has expended almost \$139 million since 1975. Over \$100 million (72%) was expended supporting these training programs. After a brief startup phase (1976-1980), the programs quickly reached funding levels of over \$3 million annually (see Appendix 7). It is unrealistic to think that teaching hospitals or private foundations would expend a fraction of that amount to sponsor Family Medicine education programs.

Records indicating the purposes and results of these expenditures are beyond the scope of this analysis. They will be addressed in subsequent studies. However, a simple proxy may be used to see the overall impact. It is the percentage of Oklahoma physicians who are practicing in primary care specialties. The Oklahoma percentage is 41%. That is the second most favorable state percentage in the country ... and meets federal goals established 15 years ago. There is no question that such a percentage could not have been approached without the state fiscal catalyst provided from 1975 to present.

The cumulative performance that is enviable today was due to dynamics of 20 years ago. The dynamics are changing. Success tomorrow depends upon work done today. That said, there are clear indications that attention must be paid to the growth and development of these programs. The Family Medicine residency programs are clearly the raw products for viable PMTC programs. The enrollment in, and graduation from, these programs bears monitoring. Figure 1 depicts the combined graduates, by year, from these programs. The number of graduates has dropped from 39 in 1991 to 21 in 1993. Since 1995, three additional programs have become operational (see Appendix 9) contributing to 32 graduates in 2001.

Afterword

A follow-up and supplemental analysis of Family Medicine residency programs is planned. Once comprehensive and complete service and location data is obtained, it is planned to apply the economic model described later in this paper. When applied, estimates of the economic return of these graduates will be calculated.

Issue Discussion
PHYSICIAN INCENTIVE PROGRAMS

There have been 633 physician recipients of PMTC assistance since 1976. Their numbers are arrayed below by current status and PMTC program:

Table 1
PMTC Program Recipients

| Status | Student Scholarship | Student Matching | Residency Scholarship | Physician Matching | All Programs |
|---------------------------|------------------------|---------------------|--------------------------|-----------------------|-----------------|
| Repaid Loan | 92 | 34 | 12 | 7 | 145 |
| In Medical School | 30 | - | - | - | 30 |
| In Residency Training | 37 | - | 24 | - | 61 |
| In Obligated Service | 23 | - | 27 | 34 | 84 |
| Continued Service | 81 | 29 | 17 | 40 | 167 |
| Other Oklahoma Service | 56 | 14 | 3 | 18 | 91 |
| <u>Moved Out-of-State</u> | <u>30</u> | <u>15</u> | <u>1</u> | <u>9</u> | <u>55</u> |
| Total Recipients | 349 | 92 | 84 | 108 | 633 |

Note: Student Matching Program discontinued in 1988.

How to Read: There are 349 medical students who have been recipients of the Rural Medical Education Scholarship (Student Scholarship); 92 have repaid the loans in lieu of obligated service; 30 are currently in medical school; 37 are currently in residency training; 23 are meeting their community service obligation; 81 have continued to practice in the community after their obligation was satisfied; 56 moved to another Oklahoma community after their obligation was satisfied; and 30 moved out-of-state after their obligation was satisfied.

Physicians are accorded a unique economic and professional status. Because of their special licensure privileges, and their general career longevity of 30+ years, they have enormous economic impacts upon their communities over a long period of time. The following table depicts the physician-years of service that PMTC recipients have provided for Oklahoma communities.

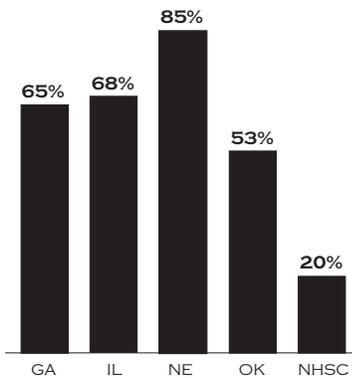
Table 2
Physician-Years of Community Service
Oklahoma Physician Manpower Training Commission

| Status | Student Scholarship | Student Matching | Residency Scholarship | Physician Matching | All Programs |
|-------------------------------|------------------------|---------------------|--------------------------|-----------------------|-----------------|
| Obligated Service | 432 | 237 | 103 | 150 | 922 |
| Continued Service | 720 | 160 | 30 | 384 | 1,294 |
| <u>Other Oklahoma Service</u> | <u>607</u> | <u>93</u> | <u>5</u> | <u>186</u> | <u>891</u> |
| Total Recipients | 1,759 | 490 | 138 | 720 | 3,107 |

Note: Student Matching Program discontinued in 1988.

How to Read: The 349 medical students who have been recipients of the Rural Medical Education Scholarship (Student Scholarship) have completed 432 physician-years of service while completing their service obligation; they have also served their community for an additional 720 physician-years after the obligation was satisfied; and those that relocated from the community after the obligation was satisfied contributed an additional 607 physician-years within the state of Oklahoma.

FIGURE 2
COMMUNITY RETENTION RATES



SOURCES: JOURNAL OF THE AMERICAN BOARD OF FAMILY PRACTICE AND UNIVERSITY OF NORTH DAKOTA RURAL HEALTH RESEARCH CENTER 6-8

Retention

... retention is a two-part responsibility. The administering agency (PMTc in Oklahoma) is primarily responsible for sensible matching of recipients and communities. The host community, and its clinical infrastructure, bear the bulk of the responsibility for ultimate retention ...

Physician Retention Rates

The primary variable in assessing program effectiveness is “retention.” There are some who choose to hold the sponsoring agency totally responsible for “community retention;” that is the percentage of physicians who choose to remain in a community after an obligation is completed. Retention is a two-part responsibility. The administering agency (PMTc in Oklahoma) is primarily responsible for sensible matching of recipients and communities. The host community, and its clinical infrastructure, bear the bulk of the responsibility for ultimate retention.

Retention rates have various definitions. Listed below are four different rates used to evaluate outputs.

Program Retention

The percentage of recipients who have chosen to complete service obligations rather than simply repay the incurred debt via loan repayment. This rate should be examined in light of a major policy change in 1993. Recipients prior to 1993 could repay their loan principal plus a penalty up to 100% of the principal. After 1993, loan repayments and penalty were increased to triple the loan amount plus interest. For all intents and purposes, this will eliminate loan repayments in lieu of service.

Community Retention

The percentage of physicians who have chosen to practice in their obligated community after the service obligation has been completed.

Rural Retention

The percentage of physicians who have remained in, or relocated to, a rural Oklahoma community after the rural service obligation has been completed.

State Retention

The percentage of physicians who have remained in Oklahoma after the service obligation has been completed (see Figure 4).

Table 3
Physician Retention Rates
Oklahoma Physician Manpower Training Commission

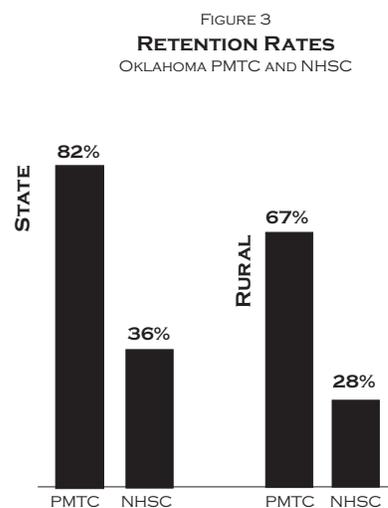
| Status | Student Scholarship | Student Matching | Residency Scholarship | Physician Matching | All Programs |
|--------------|---------------------|------------------|-----------------------|--------------------|--------------|
| Program | 67% | 63% | 80% | 94% | 73% |
| Oklahoma | 82% | 74% | 95% | 87% | 82% |
| Rural County | 66% | 62% | 86% | 72% | 67% |
| Community | 49% | 50% | 81% | 60% | 53% |

Note: Student Matching Program discontinued in 1988.

Surprisingly little data are available for either state-based or national program retention rates. The few data that are available are not current. However, it is instructive in the fundamental differences between national and state programs.

The National Health Service Corps is a federally operated loan forgiveness program. The recipients tend to be assigned to particularly hard to fill locations and cultural differences oppose significant retention rates in the original community.

This is noted to underline that defaulting state health policy responsibilities to a federal program will not achieve optimal results for the state. It is estimated that 20% of all NHSC recipients remain in their community upon the completion of their obligation.⁶



The University of North Dakota surveyed the few states able or willing to share retention rate data. The states were Illinois, Nebraska, Georgia and Oklahoma.⁸ The states all reported retention rates well above 50% (see Figure 2). In the case of Oklahoma, the 53% reported accounts for all programs over 25 years. However, the Oklahoma residency / community matching program (see Table 3) experiences an 81% community retention rate.

Physician Movement

There have been 313 physicians who have completed obligated service since 1975. Of these, 167 (53%) remained in that community to practice; and 146 relocated elsewhere. The table below depicts where they resettled:

| | |
|--|-----|
| Moved within same county | 7 |
| Moved to another rural county | 39 |
| Moved to an urban county in Oklahoma | 45 |
| Moved to another state | 53 |
| Other circumstance | 2 |
| Total relocated after serving obligation | 146 |

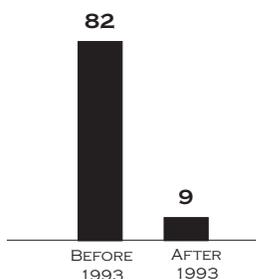
Using the data above, movement is described as one-third, one-third and one-third. One-third (32%) stayed within their county or moved to another rural county in the state; another third (31%) moved to one of the 14 urban counties in Oklahoma; and a bit over a third (37%) moved out-of-state or were lost to practice. Of the 146 physicians relocating ... two-thirds (63%) remained in the state of Oklahoma.

In summary, of the 313 physicians completing obligations, there were 213 (68%) who either stayed in the community of obligation or moved to another rural area of Oklahoma. Therefore, two-thirds of all physicians completing obligations will continue to serve rural Oklahoma.

FIGURE 4
OUT-OF-STATE RELOCATION
THERE WERE 53 PHYSICIANS WHO RELOCATED AFTER SERVING AN OKLAHOMA OBLIGATION. THEY MOVED TO ONE OF 19 STATES (INCLUDING RI) DEPICTED BELOW:



FIGURE 5
RECIPIENTS REPAYING LOANS
 (STUDENT RURAL SCHOLARSHIP ONLY)



Default Payments (Loan Forgiveness)

The PMTC initially learned that an effective loan repayment policy was fundamental to loan contracts. Even so, students could simply repay the loan with nominal interest and not serve an obligation. While there was nothing morally or legally wrong with such actions, loan repayment defeated the primary purpose of the program.

In 1993, state statute allowed the PMTC to impose up to a 300% penalty plus interest. This sizable penalty caused students to more seriously consider their obligation prior to accepting the loan. The sobering effect of the penalty is that prior to 1993, there were 82 physicians who repaid the loans; since 1993, only nine have chosen to do so (see Figure 5). In the cases of the nine recipients (since 1993) who are repaying loans, six either left medicine or relocated for family reasons. The PMTC Scholarship Concerns Committee has the authority to assess the causes of loan repayment and negotiate a reasonable payment amount given individual circumstances.

Professional Choices

The PMTC administration is relatively unique in that the programs are designed, operated and monitored by a commission that has both MD and DO representation. This is in recognition that both professions participate in primary care physician production in significant ways. This section examines the PMTC program choices of both professions. The following table arrays the program choices and enrollments by profession.

Table 4
PMTC Program Recipients

| <u>Programs</u> | <u>MD</u> | <u>DO</u> | <u>Totals</u> |
|-----------------------|------------------|------------------|-------------------|
| Students: | | | |
| Scholarships | 172 (49%) | 177 (51%) | 349 (100%) |
| Community Match | 54 (59%) | 38 (41%) | 92 (100%) |
| Sub-total | 226 (51%) | 215 (49%) | 441 (100%) |
| Resident Scholarship | 53 (63%) | 31 (37%) | 84 (100%) |
| Practicing Physicians | 73 (68%) | 35 (32%) | 108 (100%) |
| Totals | 352 (56%) | 281 (44%) | 633 (100%) |

Historically, the medical school enrollments in Oklahoma are roughly 63% in MD programs and 37% in DO programs. The table above clearly shows a high proportion (almost half) of student program enrollments by DO students compared to medical school enrollment. The other two programs show a roughly similar proportion to historical medical school enrollments. The retention rates below clearly indicate that there is no significant difference by profession

Table 5
PMTC Program Recipients

| <u>Retention</u> | <u>MD</u> | <u>DO</u> | <u>Totals</u> |
|---------------------------------|-----------|-----------|---------------|
| Program | 70% | 78% | 73% |
| Repaid Loans in Lieu of Service | 30% | 22% | 27% |
| State | 85% | 80% | 82% |
| Rural County | 67% | 68% | 67% |
| Community | 56% | 50% | 53% |

Issue Discussion
FEDERAL PROGRAMS



National Health Service Corps
"The National Health Service Corps is a program of the Federal Health Resources and Services Administration's Bureau of Primary Health Care, which is the focal point for providing primary health care to underserved and vulnerable populations.

*The mission of the NHSC is to increase access to primary care services and reduce health disparities for people in health professional shortage areas by assisting communities through site development and by the preparation, recruitment and retention of community-responsive, culturally competent primary care clinicians."*¹

National Health Service Corps

There are two federal initiatives that provide physicians for underserved areas of Oklahoma. They are the National Health Service Corps (see page 1) and the State 20 Program (see next page).

The NHSC programs focus upon defined Health Professional Shortage Areas (HPSA). These areas are as likely to be urban as rural. There have been 77 physicians who have served a NHSC obligation in Oklahoma.⁷ The following tables and narrative describe the overall impacts upon the state.

Table 6
NHSC Program Recipients
Location After Obligation

| <u>Location After Obligation</u> | County of Obligation in Oklahoma | | |
|---|---|---------------------|---------------------|
| | <u>Rural</u> | <u>Urban</u> | <u>Total</u> |
| Rural county in Oklahoma | 9 | 2 | 11 |
| Urban county in Oklahoma | 4 | 13 | 17 |
| <u>Left Oklahoma</u> | <u>25</u> | <u>24</u> | <u>49</u> |
| Totals | 38 | 39 | 77 |

How to Read: There have been 77 physicians who have served a National Health Service Corps obligation in Oklahoma. There were 38 who served their obligation in a rural county and 39 who served in an urban county. Of the 38 who served an obligation in a rural county, 25 left the state, 4 moved to an urban county in the state, and 9 practice in a rural county in Oklahoma.

Table 7
NHSC Program Recipients
Location After Obligation by Specialty

| <u>Specialty</u> | <u>Rural OK</u> | <u>Urban OK</u> | <u>Left State</u> | <u>Totals</u> |
|-------------------------|------------------------|------------------------|--------------------------|----------------------|
| Family Practice | 6 | 7 | 29 | 42 |
| Internal Medicine | 1 | 5 | 5 | 11 |
| Pediatrics | 0 | 3 | 4 | 7 |
| Emergency Medicine | 2 | 1 | 3 | 6 |
| Psychiatry | 1 | 0 | 5 | 6 |
| Obstetrics & Gynecology | 1 | 0 | 1 | 2 |
| Ophthalmology | 0 | 0 | 1 | 1 |
| Podiatry | 0 | 1 | 0 | 1 |
| <u>Not Listed</u> | <u>0</u> | <u>0</u> | <u>1</u> | <u>1</u> |
| Totals | 11 | 17 | 49 | 77 |

How to Read: There have been 77 physicians who have served a National Health Service Corps obligation in Oklahoma. There were 42 who were Family Practice physicians. Of the 42 family physicians, 29 left the state after their obligation was served. There are 7 who serve in urban areas and 6 who practice in rural counties.

Oklahoma State 20 Program

This is a federal program administered by the State Health Department.

"Almost all foreign medical graduates in J-1 status are subject to a requirement that they return to their home country at the completion of the training program for two years. Satisfaction or waiver of this requirement is necessary before moving from J visa status to most any other visa status. Therefore, in most cases a return to the home country for two years or a waiver of this requirement is necessary before a foreign doctor can obtain employment in the United States.

J-1 waivers are sometimes available to foreign medical graduates who have an employment offer that is important to a state department of health, usually if the doctor is working in primary care in a medically underserved area in the state. This waiver option is called the State 20 Program (Oklahoma 20), because it is limited to 20 foreign medical graduate waivers per state per year."

(www.twmlaw.com/resources/medical/medical2cont.htm).

Program Discontinued

"On September 27th, 2001, the Oklahoma State Board of Health voted to discontinue the Oklahoma State 20 Program. The board first considered this action nearly two years ago after concerns were voiced about the program having a negative impact on state funded efforts to place American physicians in rural areas of the state.

After long and deliberate consideration, a majority of the Board believed that closing of the program would not materially effect the placement of foreign medical graduates into rural underserved areas of Oklahoma. A federal program administered by USDA duplicates the State 20 Program. Redirecting resources involved in the State 20 Program to enhance and further specific initiatives in community health development would provide greater value." (submitted by Michael Brown, Director, Office of Primary Care, Oklahoma State Department of Health, via email October 4, 2000)

Oklahoma State 20 Program

The Oklahoma State 20 Program is a federal program administered by the Oklahoma State Department of Health. U.S. immigration law requires international medical graduates to return to their home country for two years following their postgraduate medical training in the United States. Service in this program will waive the two year return requirement. These J-1 waivers are available to international medical graduates who have an employment offer in primary care that is in an area experiencing a shortage of primary care physicians. This waiver option is called the State 20 Program (Oklahoma 20), because it is limited to 20 foreign medical graduate waivers per state per year.

From 1995 - 2001, there have been 125 physician participants in Oklahoma. To-date, 80 have completed the obligation and 45 are currently serving the obligation. Upon completion of the obligation period, 51% (41/80) of the physicians left Oklahoma, while 49% (39/80) remained.⁷ (see Table 8)

One of several contributing factors is that many IMG physicians are specialty oriented and served to comply with an immigration procedure. Migration to larger communities and out-of-state is not surprising.

This program is oriented towards primary care physicians. The majority (68%) of participants have been internists. Also, 16% have been pediatricians and 10% were family physicians (see Table 9).

Table 8
**State 20 Program Recipients
Location After Obligation (1995-01)**

| <u>Location After Obligation</u> | <u>County of Obligation in Oklahoma</u> | | |
|----------------------------------|---|--------------|--------------|
| | <u>Rural</u> | <u>Urban</u> | <u>Total</u> |
| Rural county in Oklahoma | 21 | 1 | 22 |
| Urban county in Oklahoma | 9 | 8 | 17 |
| <u>Left Oklahoma</u> | <u>39</u> | <u>2</u> | <u>41</u> |
| Totals | 69 | 11 | 80 |

How to Read: There have been 80 physicians who have completed the OK State 20 obligation. There were 69 who served their obligation in a rural county and 11 who served in an urban county. Of the 69 who served an obligation in a rural county, 39 left the state, 9 moved to an urban county in the state, and 21 continue practice in a rural county in Oklahoma.

Table 9
**State 20 Program Recipients
Specialty by Obligation County (1995-01)**

| <u>Specialty</u> | <u>County of Obligation in Oklahoma</u> | | |
|-------------------|---|--------------|--------------|
| | <u>Rural</u> | <u>Urban</u> | <u>Total</u> |
| Internal Medicine | 70 | 15 | 85 |
| Pediatrics | 15 | 5 | 20 |
| Family Medicine | 12 | 0 | 12 |
| Psychiatry | 6 | 0 | 6 |
| <u>Other</u> | <u>2</u> | <u>0</u> | <u>2</u> |
| Totals | 104 | 21 | 125 |

How to Read: There have been 125 physicians in the OK State 20 program. There were 104 who committed to an obligation in a rural county and 21 to an urban county. Of the those who committed to an obligation in a rural county, 70 were internists, 15 were pediatricians, and 12 were family physicians.

Issue Discussion

ECONOMIC IMPACTS OF FAMILY PHYSICIANS



Licensed physicians are one of the most powerful economic engines for a local economy. Practicing physicians are the primary economic catalysts for the health care sector. They are the only professionals licensed by the state to prescribe medications, or to practice many surgical and other clinical procedures. Therefore, the health care economy cannot function in the absence of a licensed physician.

The economic impact calculations at Appendices 19-20 are based upon the IMPLAN database information for Oklahoma's counties. The database is owned and administered by the OSU Cooperative Extension Service and utilized with their permission.⁹

"IMPLAN is a PC based economic analysis system. There are two major components to IMPLAN, data files and software. Both software and data files are required to create regional models. Data files include information for 528 different industries (generally 3 or 4 digit SIC code breakdowns), and 21 different economic variables. Along with the data files are national input-output structural matrices. Data files are available for individual state, county and custom Zip Code level. Individual state data packages bundle together the U.S. totals file, the state totals file, and all related county files. The current year available is 1998. Earlier data is also available. The IMPLAN data also contains social accounting matrix (SAM) data. Together with the IMPLAN Pro software they can generate a balanced SAM for any region." Source: Minnesota IMPLAN Group, Inc. www.implan.com

The staffing and income assumptions are for family physicians only. Family physicians will impact local economies at various levels. The impacts are both direct and secondary. Appendices 16-18 provide a detailed methodology and explanation of calculations.

Direct Impacts

Physicians directly employ support staff. This staff will directly support the physician's office or clinic practice. The physician's practice will also cause others to be employed in the health care sector. These jobs will be in hospitals, nursing homes, home health agencies, hospice groups and pharmacies. These are all "direct" jobs. The total income of these jobs will create the "direct" impact upon an economy.

Secondary Impacts

In addition to direct impacts, the spending of direct income of the individuals will create additional jobs outside of the health care sector. These jobs may be school teachers, ministers or grocers. These are called indirect jobs. The spending of health care institutions such as hospitals and nursing homes will also create additional jobs outside of the health care sector. These are called induced jobs.

The total of the indirect and induced employment will be the secondary jobs created. The total income from these jobs will create the secondary economic impact of a family physician upon an economy.

Total Economic Impact

The total economic impact is the sum of the direct and secondary impacts. The estimates for each county in Oklahoma will vary (see Appendix 10-11 and 19-20). Rural county, urban county and statewide averages are below:

Table 10
Economic Impact Per Family Physician

| <u>Per Physician</u> | <u>Rural</u> | <u>Urban</u> | <u>State</u> |
|------------------------|--------------|--------------|--------------|
| Direct Jobs | 27 | 16 | 18 |
| Secondary Jobs | 23 | 13 | 15 |
| Total Jobs Created | 50 | 29 | 34 |
| Direct Income | \$700,320 | \$505,454 | \$549,063 |
| Secondary Income | \$456,490 | \$390,166 | \$405,008 |
| Total Income Generated | \$1,156,810 | \$895,620 | \$954,071 |

PMTC Influence

One must consider how many of the physicians would be practicing where they are without PMTC assistance. This is the “wildcard” of economic impact estimates. The discussion could be further complicated by assuming that in the absence of the existing physician, another physician may have located in that community.

In order to assess this influence, we surveyed PMTC assisted physicians and asked them to indicate the degree to which PMTC influenced their practice location (see question 7, Appendix 15). Respondents were asked to circle a response between 0 and 10. The average response was 5.2; the median was 6.0. When considering the responses of 8, 9 or 10, one concludes that the direct PMTC influence could be between 9%, 15% or 25%.

Using these observations, one may assume that at least 15% of physician presence ... and associated economic impact ... is directly and fully attributable to the PMTC programs. One may also assume an influence as low as 9% or up to 25%.

Annual Economic Impact

There are 338 PMTC assisted physicians currently practicing in Oklahoma. These physicians are responsible for the creation of almost 17,000 jobs annually. These jobs yield an estimated income of \$415 million. Rural counties will benefit from the bulk of these jobs and income.

Table 11
Annual Economic Impact of PMTC Assisted Physicians
(Assumes PMTC totally influenced 15% of practice choices)

| <u>Impact</u> | <u>Physicians</u> | <u>Jobs</u> | <u>Income</u> |
|-----------------------|-------------------|-------------|---------------|
| Rural counties | 240 | 12,063 | \$297M |
| Metropolitan counties | 98 | 3,814 | \$99M |
| State of Oklahoma | 338 | 15,876 | \$395M |

How to read: There are 240 physicians practicing in rural counties who have been recipients of PMTC assistance. Each year they will create 12,063 jobs that generate income of \$297 million (see Appendix 10 totals).

Attributable Annual Economic Impact

There are 338 PMTC assisted physicians currently practicing in Oklahoma. These physicians are responsible for the creation of almost 17,000 jobs annually. These jobs yield an estimated income of \$395 million. Using the 15% assumption above, the following table summarizes the annual economic impacts of PMTC assisted physicians:

Table 12
Attributable Annual Economic Impacts
 (Assumes PMTC totally influenced 15% of practice choices)

| <u>Impact</u> | <u>Physicians</u> | <u>Jobs</u> | <u>Income</u> |
|-----------------------|-------------------|-------------|---------------|
| Rural counties | 240 | 1,809 | \$45M |
| Metropolitan counties | 98 | 572 | \$15M |
| State of Oklahoma | 338 | 2,381 | \$59M |

How to read: There are 338 physicians practicing in Oklahoma who have been recipients of PMTC assistance. If PMTC programs fully influenced 15% of practice locations, the Commission's program could claim total responsibility for the annual creation of 2,381 jobs and \$59 million of associated income.

Cumulative Economic Impact

There is a recurring annual economic impact as the cohort of physicians grows and matures. Since 1976, PMTC assisted physicians have provided over 3,000 physician-years of service in Oklahoma. This cumulative service is estimated to have provided almost \$4 billion of income to Oklahomans (see Appendix 20 for community detail).

For illustrative purposes, assume that (1) PMTC has influenced 15% of practice choices and (2) a physician will generate jobs worth \$954,000 per year in local income that is direct and secondary. Given these estimates, the 3,107 physician years of service provided by PMTC recipient physicians would equate to a total PMTC generated statewide economic impact on jobs and income of \$445 million ($3,107 * 15% * \$954,000$).

Return On Investment

Another measure of impact is "return on investment." It is a valid and practical observation to make concerning PMTC recipients, as it is of significant interest to legislators and policy makers.

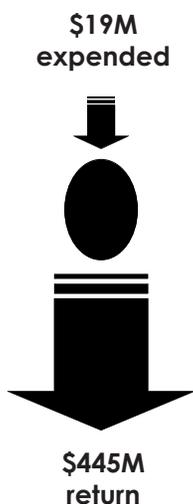
The state of Oklahoma has expended \$18.5 million on the physician scholarship, loan and incentive programs. What is the return on that investment? What are the economic impacts?

These return on investment figures do not discount the value of money. Given the magnitude of the difference between expense and return, the complexity of this calculation would add little to the analysis. Should one want to discount the value of money, the data is presented to create that model. All IMPLAN dollars are in 1998 dollars. The sum of expenditures are in the current dollars for each year.

The PMTC expenditure of \$18.5 million on scholarship programs (see Appendix 7 for detail) has returned a conservative \$445 million of economic impact upon Oklahoma communities.

The return on investment is enormous.

FIGURE 6
A RETURN ON INVESTMENT



Issue Discussion

NURSING SCHOLARSHIP AND LOAN PROGRAMS



Another PMTC program provides annual scholarships for nursing students in Oklahoma. The programs are of two types, matching and non-matching.

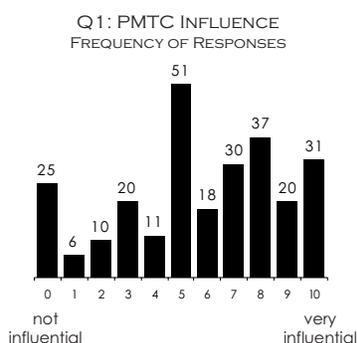
While there are 338 PMTC assisted physicians practicing in Oklahoma ... there are 2,166 PMTC assisted nurses in the state who have completed scholarship obligations. Additionally, there are 139 currently serving their obligations and another 199 in school.

Appendices 12-14 contain tables indicating the location of recipients and the aggregate scholarship value to each community in Oklahoma.



Issue Discussion
2001 PHYSICIAN RECIPIENT SURVEY

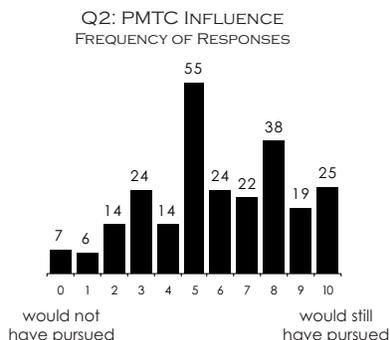
A seven question survey was mailed to 490 potential respondents; 39 were returned as undeliverable. There were 260 responses received for a response rate of 58% (260/451). The response rates were 83% (20/24) for students; 47% (28/60) for residents; and 58% (212/367) for practicing physicians. Given the excellent initial response rate, it was decided not to pursue additional responses via second mailings or phone/fax contact. The survey instrument, and response summary, is at Appendix 15. A summary narrative is below:



PMTC Influence (Rural Care)

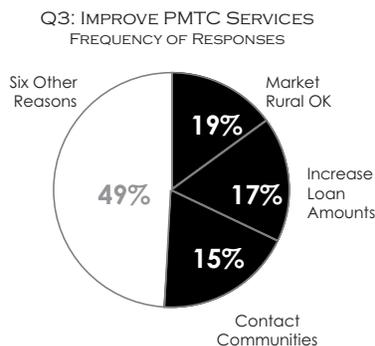
Q1: How much did the PMTC assistance influence your choice to pursue rural practice in Oklahoma? (Circle one number).

There were 259 responses. A 10 indicates very influential and 5 indicates somewhat influential. The average response was 5.75 (of 10); the median response was 6.0. There were 72% of responses responding with a 5 or above; and one-third of all responses were either 8, 9 or 10. (see chart at left).



Q2: If you did not receive PTMC assistance how likely is it that you still would have pursued a rural practice in Oklahoma? (Circle one number).

There were 248 responses. A 10 indicates "would still have pursued" and a 0 indicates "would not have pursued." The average response was 5.89. The median response was 6.0.



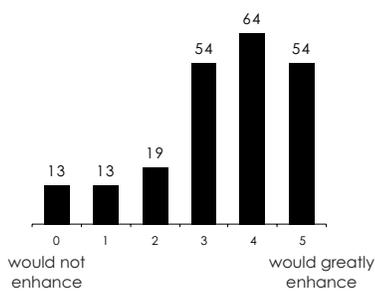
PMTC Services

Q3: How could PMTC serve Oklahoma more effectively? (Check ANY that apply).

The most often mentioned choice was "More effective marketing of rural opportunities" (125 responses) followed by "Increase the loan amounts" (114 responses).

The third most often cited choice was "greater contact [exposure] with eligible communities in Oklahoma" (99 responses). None of the other five choices had over 63 responses.

Q4: TELEHEALTH
FREQUENCY OF RESPONSES

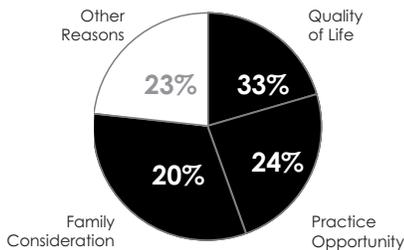


TeleHealth

Q4: Would effective and advanced telecommunications (telemedicine - telehealth - teleradiology) applications enhance medical care and the retention of physicians in smaller communities? (Circle one).

There were 217 responses. A 5 indicates "would greatly enhance." The average response was 3.4 (of 5); the median response was 4.0. There were 54% of respondents that were either a four or five; and there were 79% of the respondents indicating 3 or better. Only 13 (6%) respondents indicated a zero, or "would not enhance."

Q5/6: PRACTICE MOTIVATION
FREQUENCY OF RESPONSES



Practice Motivation

Q5: Other than a contractual obligation, what is the primary reason you are practicing where you are? (Select only one).

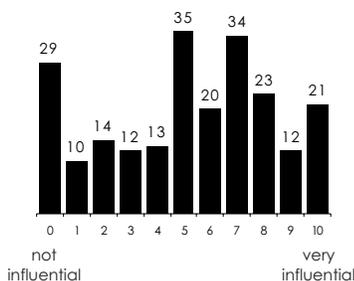
"Quality of life" (77 responses) and "medical practice opportunity" (41) were the most frequent responses. There were 46 responses that listed family reasons. They were "other family consideration" (32) or "spousal consideration" (14).

Q6: Other than a contractual obligation, what is the next most influential reason you are practicing where you are? (Select only one).

When offered a second choice, "medical practice opportunity" (57) and "quality of life" (56) were the most often selected responses. There were 37 responses that listed family reasons. They were "other family consideration" (21) or "spousal consideration" (16).

When both questions are aggregated, "quality of life" (133) and "medical practice opportunity" (98) were the most often selected responses. There were 83 responses that listed family reasons. They were "other family consideration" (53) or "spousal consideration" (30).

Q7: PMTC INFLUENCE
FREQUENCY OF RESPONSES



PMTC Influence

Q7: How influential was the PTMC assistance in your decision to practice in your community? (Circle one number).

There were 223 responses. A 10 indicates extremely influential and 5 indicates somewhat influential. The average response was 5.2 (of 10); the median response was 5.0.

SIGNIFICANT FINDINGS

▶ **State Programs**

Oklahoma has been a pioneer in establishing state physician assistance and placement incentive programs. Many states have programs, but most were established within the past 10-15 years.

Oklahoma offers a nationally unique array of scholarship, loan and incentive programs. It is the only state offering separate programs targeted at students, residents and practicing physicians.

▶ **Recipients**

A total of 633 physicians received PMTC assistance. There are 349 in the student scholarship program, 84 in the residency scholarship program and 200 in the community matching programs.

Additionally, 3,065 nurses are scholarship recipients.

▶ **Service**

The physicians have supplied 3,107 years of service to Oklahoma. The rural counties and communities of Oklahoma have received 2,179 (70%) years of service.

▶ **Retention**

Oklahoma PMTC retention rates are much higher than federally administered programs.

The state retention rate for all physicians placed by the PMTC is 82%. The rural retention rate is 67% and the community retention rate is 53%.

The program with the highest retention rates is the FP/GP Resident program with state, rural and community rates of 95%, 86% and 81%, respectively.

The lowest rate is community retention in the medical student scholarship program at 49%.

▶ **Economic Impacts**

On average, each family physician in rural Oklahoma will generate (both direct and secondary) an estimated 50 full-time jobs and these jobs will generate over \$1.1 million of income annually.

The 240 PMTC-assisted physicians in rural Oklahoma will create over 12,000 jobs producing an aggregate annual income of \$297 million.

Statewide, there are 338 PMTC-assisted physicians who generate almost 16,000 jobs and \$395 million of annual income.

▶ **Return on Investment**

Each year Oklahoma expends over \$1 million on physician scholarships, loans and practice incentives. Each year the cohort of PMTC assisted physicians creates jobs and income worth \$395 million.

Oklahoma has spent \$18.5 million of state appropriations and community matching monies on physician scholarship programs since 1975. The cohort of PMTC assisted physicians has provided 3,107 years of service to Oklahoma and created jobs and income worth \$3.6 billion.

The impacts above presume that the PMTC was solely responsible for the placements of the entire cohort of physicians. It is estimated that PMTC may claim credit for between 9-24% of the impacts.

Assuming the PMTC programs influenced 15% of physician practice choices, that would yield an annual return of \$62 million compared to the average "investment" of less than \$1 million per year.

▶ **Survey Results**

There are several overall observations made from an analysis of the survey responses.

- It is estimated that PMTC can legitimately claim that 9-24% of current placements are directly and uniquely attributable to its programs.
- Physicians will select opportunities based upon practice opportunity and quality of life considerations. Only 18% of respondents listed family considerations as a prime reason for selecting practice sites.
- Respondents strongly believe that telemedicine applications will have positive impacts upon rural health care and physician retention.
- Forty percent (40%) of respondents feel that PMTC should improve the "marketing" of both rural communities and rural practice opportunities. Another 20% believe loan amounts should be increased.

RECOMMENDATIONS

The following are recommendations that are suggested by the analysis of the data, or by an analysis of survey responses. The initial federal block grant recommendation signals a major initiative by the PMTC and provides most of the resources for the subsequent recommendations.

Pursue Federal Block Financing

▶ **The PMTC should lead an Oklahoma effort to aggressively pursue direct funding from the National Health Service Corps.**

The purpose of the funds would be to supplement existing programs and expand into other areas of critical need. The action group should include the Congressional delegation, state legislators, and physician and community leaders. The federal government should be approached aggressively.

An Oklahoma State Senator is the Chair of the NHSC Advisory Committee; the Director of the Oklahoma Office of Rural Health is the current president of the National Rural Health Association; the OSU Department of Agricultural Economics is well respected in federal rural economic development and health workforce issues; several Oklahoma congressmen are very influential in federal rural affairs; and there is a strong cadre of Oklahoma educators and leaders who are well-suited to this task.

The rationale is that the PMTC has significant expertise in managing placement programs; that the PMTC has achieved demonstrable and positive results over 25 years; and that PMTC measured results are far superior to federal programs. Therefore, Oklahoma should demand its proportional share of the National Health Service Corps budget as an unrestricted block grant. These funds should be used to supplement existing programs and initiate new ones. The suggested amount should be 1.5% of the NHSC budget ...or an estimated \$2.1 million or more.

Additionally, the case must be made that by accepting local responsibility aggressively and early (1975), and by achieving enviable results of primary care physician production, Oklahoma may have forfeited some subsequent federal benefits in graduate medical education financing. Should Oklahoma pursue this block grant philosophy, there must be a local recognition that half of the NHSC physicians have been assigned to urban areas; and the single organization using these physicians most frequently has been the Morton Comprehensive Health Center in Tulsa. Morton serves the underserved area of North Tulsa County. Any state block grant effort must continue to service these areas of the state.

Resist Deferring to Federal Programs

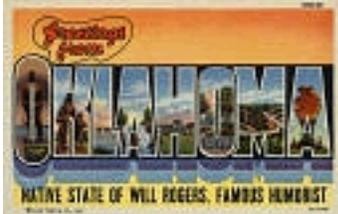
▶ **Oklahoma should not defer physician production and placement responsibility to federal programs.**

Federal programs have done little to provide a steady and reliable source of physicians committed to Oklahoma service for the long haul. While it is tempting to use federal money instead of our own, it is clear the results would be minimal and not in the best interest of Oklahoma.



► **Enhance and Refine Marketing/Planning Efforts**

The PMTC should re-energize marketing efforts of both communities and practice opportunities.



Newer approaches could include partnerships with a variety of state agencies (such as Tourism and Commerce); the private sector (State Chamber) and non-profit sector (Oklahoma Municipal League). In addition, the PMTC should consider coordinating a cadre of enthusiastic physicians to present opportunities to applicants. In addition, the PMTC should consider marketing Oklahoma communities and opportunities via a multimedia presentation on the Commission website.

It is suggested that the Commission engage in a meaningful scenario planning process and that the principal participants be the Commission members themselves.

The Commission should become more seriously engaged in a strategic planning process examining the next decade and beyond. This emphasis should be well beyond that which is required by the state budget process.

Effective strategic planning is normally done over time; normally includes the senior policymakers (Commission members); will solicit other perspectives; will adopt a process that fosters thoughtful discussion and ideas; and emphasizes creative and bold thinking. This process should radically differ from normal Commission meetings and business process.

► **Telemedicine Applications Development**

The PMTC should request legislative support and financing for a dynamic, results-oriented Telemedicine applications grant program.



- No area of Oklahoma should have a greater interest in Telemedicine applications than rural communities.
- No group should have a greater interest in Telemedicine than physicians practicing in these communities.
- No state commission or agency should have a greater interest in the success of rural communities and their physicians than the PMTC.

The major impediment of the expansion of telemedicine applications is that individual practitioners have not been shown, nor have they developed, useful telemedicine tools and techniques.

One way to do that is to provide practicing physicians the incentive to develop locally valuable applications. The PMTC specializes in incentives. The PMTC should develop a small grant program for recipient physicians in order that they may use and explore telemedicine applications.

Each public medical school and associated teaching hospital currently has the capability and the technology to assist in this effort.

► **Expand to Mental Health and Dental Health Services**

The PMTC should aggressively expand into the areas of mental and dental health.



The 21st century mental health needs of Oklahoma are mirroring our need for primary care physicians 25 years ago. The advancement of pharmacology and neuroscience are now creating a legitimate demand for services that the existing workforces cannot meet. The same could be said for dental science.



Oklahoma has significant need for dental health and mental health professionals in rural areas. The PMTC should lend its expertise and leadership to such an expansion. Models for dentistry, psychiatry, and clinical psychology programs should be simple to administer given current workable models.

Some will object that this is not a part of the PMTC charge. This recommendation is that the charge of PMTC be modified along with the Commission and staff structure to accommodate the expansion.

There are a host of mental health approaches that may be followed. Regardless of the direction taken, mental health services are best delivered regionally rather than within every smaller community.

Perhaps it is most effective to operate the programs directly through Oklahoma's Community Mental Health System network. Perhaps dental health is best addressed through the Department of Community Dentistry, University of Oklahoma College of Dentistry.

► **Nursing Internships**

The PMTC should establish targeted nurse leadership internships, leadership programs or similar efforts.



These programs should be designed to foster mutual respect and understanding between nurses and other key health care professionals. The Commission should seek the help of Oklahoma's public medical and nursing schools to create this effort.

The PMTC is the only public agency to have a significant interest in both nursing and physician workforce issues. Nursing workforce issues are becoming the focus of national concern. One concern is the aging workforce. Another is the widening professional/social workplace disconnect between younger nurses and physicians.

This proposal calls for experiences of two weeks or less; for a state/nurse sponsor matching effort to cover costs; and an experience with resident physicians at medical schools. The curriculum would emphasize significant collaboration with working physicians and moderated discussions and interactions to foster significant mutual respect and understanding.

The program could be modeled loosely upon community/state leadership programs that are popular with the public and private sector alike.

▶ **GME Financing**

The PMTC should provide a leadership role in suggesting that Oklahoma explore the feasibility of a state operated, all-payer GME financing system.



There are initial efforts at such a state operated function occurring in Indiana, Texas and New York. It is suggested that Oklahoma is likely more advanced than those states in physician incentive and production systems, and Oklahoma is small enough to get the job done and large enough to make a difference. Such an all-payer system would require federal cooperation and collaboration and would require that Oklahoma hospitals also cooperate.

There is precedent for both in Oklahoma. The conversation is difficult and the implementation beyond the scope of PMTC alone. However, PMTC should leverage its record and reputation to insist that the discussions begin.

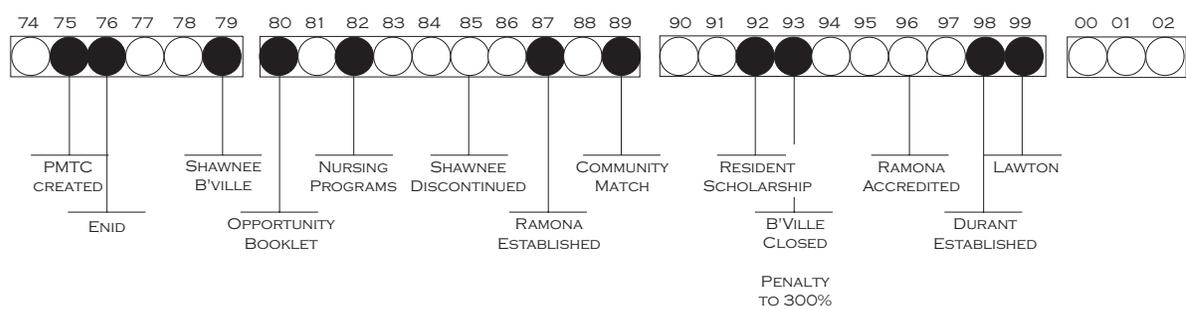
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APPENDIX 1

PMTC MAJOR POLICY TIMELINE



- 1975 PMTC established by the Oklahoma Legislature
- 1976 Enid Rural Training Site established
- 1977
- 1978
- 1979 Shawnee & Bartlesville Rural Training Sites established
- 1980 The Physician Placement Opportunity Booklet was developed
- 1981
- 1982 Nursing Student Assistance Program developed
- 1983
- 1984
- 1985 Shawnee Program discontinued
- 1986
- 1987 Ramona Rural Training Site established
- 1988
- 1989 Physician/Community Match Program developed
- 1990
- 1991
- 1992 Family Practice/General Practice Resident Rural Scholarship Program developed
- 1993 Rural Medical Education Scholarship default penalties increased to three times loan principal.
Bartlesville Program discontinued
- 1994
- 1995
- 1996 Ramona Program accredited
- 1997
- 1998 Durant Rural Training Site established
- 1999 Lawton Rural Training Site established
- 2000
- 2001

Appendix 2

A Program Capsule: Medical Students

Rural Medical Education Scholarship Loan

This program is oriented towards medical students only. It offers scholarship loans of up to \$42,000 (\$6,000 for the first year student; \$12,000 each for second, third and fourth years). The loan may be repaid through designated service or through a repayment mechanism that includes significant interest and penalties.

It is estimated that 25% of the recipients began in the first year of medical school; 45% began in the second year; and 30% in the third year (Source: PMTC staff).

Individuals who participate in the program are obligated to practice in an Oklahoma community with a population of 7,500 or less. The service obligation is one year of service per one year of loan.

The repayment penalty is as follows. If the medical school graduate goes into a residency program other than in primary care, payback of three times the principal and accrued interest may be due immediately. If the physician decides not to repay his/her obligated scholarship loan by practicing medicine in rural Oklahoma, he/she may be required to repay three times the principal amount, plus interest in accordance with the terms of the contract.

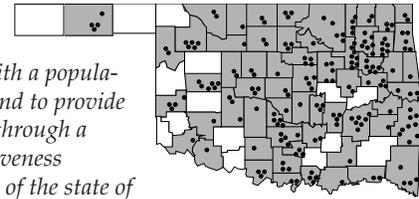
Enrollment Summary

- 67 still in training
- 23 currently serving their obligation
- 81 served their obligation and remained in that community
- 56 served their obligation then relocated within Oklahoma
- 30 served their obligation then relocated to another state
- 92 have repaid or are repaying their loans
- 349 have been enrolled in the program since 1976

To date, recipients have contributed 1,759 years of service to Oklahoma communities.

Objective

To assist Oklahoma's rural communities with a population of 7,500 or less and to provide financial assistance (through a scholarship loan forgiveness program) to residents of the state of Oklahoma who are enrolled in a medical college and who have as their goal the practice of medicine in rural Oklahoma.



The state map depicts program recipients who are fulfilling ... or who have fulfilled ... their obligation to a rural community. There are 190 recipients in 107 separate communities.

Eligibility

Recipient agrees to practice in an Oklahoma community with a population of 7,500 or less; is currently enrolled in (or has been accepted into) a medical college; plans to do internship/residency in a primary care specialty; has no other assistance which has a conflicting service obligation requirement; and is a resident of the state of Oklahoma.

Amount of Loan

\$42,000 (\$6,000 for the first year student; \$12,000 each for second, third and fourth years) payable monthly.

Obligation

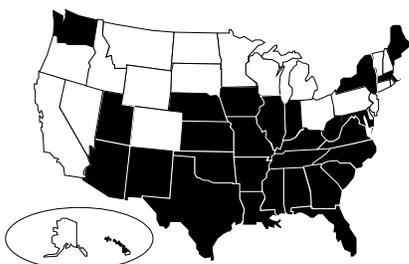
One year of practice in an Oklahoma community of 7,500 or less population for each year of scholarship loan. (Must practice at least two years for any credit to be given.)

Penalty

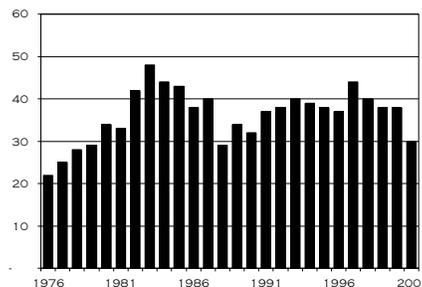
If the medical school graduate goes into a residency program other than in primary care, payback of three times the principal and accrued interest may be due immediately.

If the physician decides not to repay his/her obligated scholarship loan by practicing medicine in rural Oklahoma, he/she may be required to repay three times the principal amount, plus interest in accordance with the terms of the contract.

STATES SPONSORING MEDICAL STUDENT INCENTIVE PROGRAMS



MEDICAL STUDENT SCHOLARSHIP PROGRAM
PMTC PROGRAM RECIPIENTS BY YEAR



Appendix 3

A Program Capsule: Resident Physicians

Family Practice Resident Rural Scholarship

This program was initiated in 1992. It is available to residents in an accredited Oklahoma Family Practice or General Practice Program.

In terms of retention percentages, this program is, by far, the most effective and efficient of the four programs administered by the PMTC. This is likely due to the direct cause-effect of debt obligation and commitment.

Within 24 months of joining the program, a resident must select a community in which to practice from a list of those participating. After this selection, the community will then pay 50% of the scholarship.

Residents in this program receive \$1,000 per month, with a month-for-month practice obligation in an underserved community. Residents must also agree to spend one month during the 3rd year of residency on elective rotation in the community. The community practice obligation begins immediately following residency completion.

Enrollment Summary

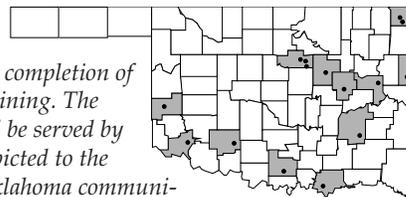
- 24 are still in residency training programs
- 27 are currently serving their obligation
- 17 served their obligation and remained in that community
- 3 served their obligation then relocated within the state
- 1 served their obligation then relocated to another state
- 12 have repaid or are repaying their loans
- 84 total enrolled in this program

To date, FP / GP Resident Scholarship recipients have contributed 138 years of service to Oklahoma communities.

Objective

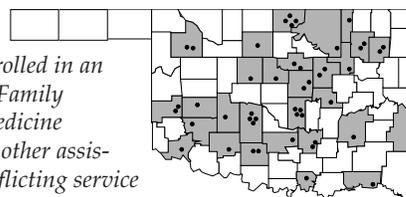
To assist Oklahoma's rural communities and provide financial assistance to residents enrolled in an accredited Family Medicine Residency Program located in Oklahoma.

There are 24 recipients who will return to matched communities after the completion of their postgraduate training. The communities that will be served by these residents are depicted to the right: There are 47 Oklahoma communities being served by recipients of the program. They are depicted below:



Eligibility

Must be currently enrolled in an accredited Oklahoma Family Practice or Family Medicine Program and have no other assistance which has a conflicting service obligation.



Amount of Scholarship

\$1,000 per month.

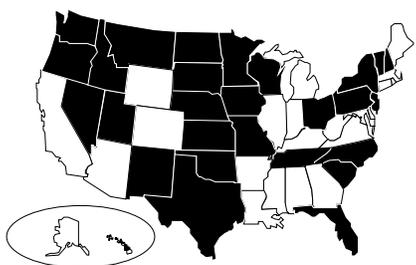
Obligation

Recipient agrees to select and match with a PMTC approved rural community on or before the end of the second year of residency training; to spend one month during 3rd year of residency on elective rotation in the selected community; and serve one month for each month the loan was received, with no credit being granted for anything less than 12 months.

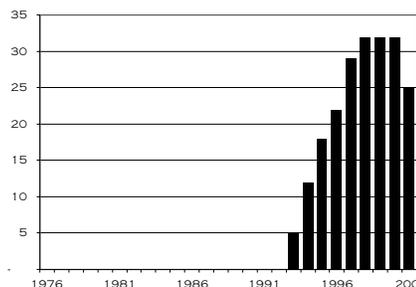
Penalty

If the physician decides not to repay his/her obligated scholarship loan by practicing medicine in the chosen community, he/she will be required to repay the principal amount, plus interest and a penalty of up to 100% of the principal. Interest accrues at the prime rate plus 1%.

**STATES SPONSORING
RESIDENT PHYSICIAN INCENTIVE PROGRAMS**



**RESIDENT SCHOLARSHIP PROGRAM
PMTC PROGRAM RECIPIENTS BY YEAR**



Appendix 4
A Program Capsule: Practicing Physicians

Community Match Programs

The Oklahoma Community Physician Education Scholarship Loan Program began in 1976. In this program, a community provided 50% of scholarship funds for the duration of a student's undergraduate medical training, and in return the student agreed to practice in that community upon completion of postgraduate training.

Funding for this program was eliminated in 1988, and the Physician Community Match Program replaced it.

The Physician Community Match Program (also known as the Community Match Intern/Resident Program) was proposed in 1989. This program is a loan forgiveness program created to provide funds for primary care physicians who agree to locate in a rural, underserved area of the state.

State funds are matched on a 50/50 basis with a rural community that a physician agrees to practice in for a specified period of time. The PMTC and the sponsoring community's funds are given to the physician to either repay medical school expenses or to pay the costs of establishing a practice in the community.

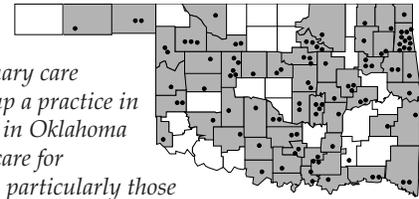
Enrollment Summary

- 34 are currently serving their obligation
- 69 served their obligation and remained in that community
- 32 served their obligation then relocated within Oklahoma
- 24 served their obligation then relocated to another state
- 41 have repaid their loans in lieu of obligated service
- 200 total participants in the program

To date, these recipients have contributed 1,210 years of service to Oklahoma communities.

Objective

To provide financial assistance to the primary care physician in setting up a practice in selected communities in Oklahoma and provide medical care for citizens of Oklahoma, particularly those in communities of less than 10,000 population.



There are two PMTC programs that have provided a physician/community matching process. They are the Physician/Community Match Loan Program (1976 - 1988) for medical students and the Community Physician Education Scholarship Loan Program for practicing physicians (1989 - present). There are 101 recipients and 64 communities who have participated. Program communities that have benefited are depicted above.

Eligibility

The recipient must desire to practice in an Oklahoma community that is participating in the Match Program, be a graduate from an accredited allopathic or osteopathic college, have successfully completed a postdoctoral program in primary care, and be preparing to set up initial practice or currently practicing in a primary care specialty.

Recipient cannot have previously received funding through PMTC scholarship loan programs and cannot be receiving assistance which has a conflicting service obligation requirement.

Amount of Loan

\$40,000 maximum - \$20,000 minimum. A lump sum payment when the physician begins to practice in the matching community.

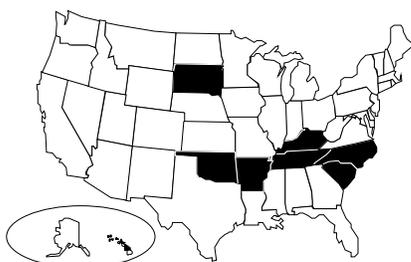
Obligation

A minimum of two years of practice in the matching community for each \$20,000 and a minimum of three years for each \$40,000 received (50% state funds and 50% community funds). The loan is forgiven after completion of the practice obligation.

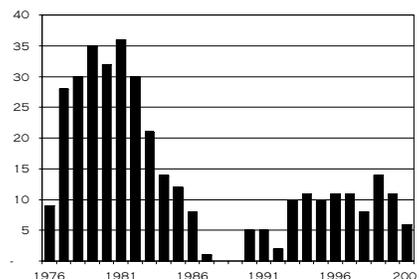
Penalty

If the physician decides not to fulfill his/her practice obligation to a matching community, he/she would owe in a lump sum the principal and interest and up to 100% penalty.

STATES SPONSORING PRACTICING PHYSICIAN INCENTIVE PROGRAMS



PHYSICIAN COMMUNITY MATCH PROGRAM PMTC PROGRAM RECIPIENTS BY YEAR



Appendix 5
A Program Capsule: Nursing Students

Nursing Student Assistance Program

This program will offer scholarship assistance of \$500,000 annually. These scholarship funds are both state and private sponsor matching monies. This is roughly half of the total offered to physicians. But given the enormous difference between the costs of educations, this program benefits thousands of nurses serving in hundreds of communities as opposed to hundreds of physicians in scores of cities and towns.

Over 3,000 nurses have been provided assistance since 1982. Nurses who have received PMTC assistance have benefited 237 Oklahoma communities in all 77 counties of the state. Although the economic impact of nurses is not in the same range as physicians, the program has provided over \$8 million of state and private sponsor assistance since 1982.

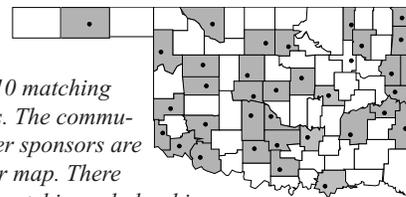
This program is available to students who are unconditionally admitted in an accredited program of nursing study and are residents of Oklahoma. Recipients are obligated to one-year of service per scholarship received.

A total of 3,065 nurses have been enrolled in the Nursing Student Assistance Program; 1,107 in the non-matching program and 1,958 in the matching (requires an employer sponsor) program.

| Status | Matching | Non-Match | Total |
|----------------------------|----------|-----------|-------|
| Fulfilled their obligation | 1,455 | 711 | 2,166 |
| Currently obligated | 73 | 66 | 139 |
| In school | 110 | 99 | 209 |
| Awaiting board results | 9 | 12 | 21 |
| In collection | 4 | 71 | 75 |
| Repaid their scholarship | 223 | 114 | 337 |
| Special circumstances | 17 | 23 | 40 |
| <u>Uncollectable</u> | 17 | 11 | 28 |
| Totals | 1,958 | 1,107 | 3,065 |

Objective

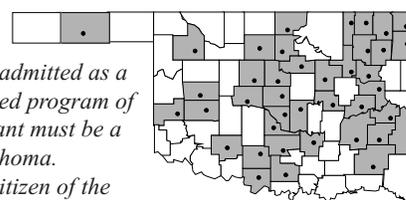
To provide assistance to Oklahoma nursing students pursuing LPN, ADN, BSN or MSN degrees and who are interested in practicing nursing in Oklahoma communities, with emphasis placed on rural communities.



There are currently 110 matching scholarship recipients. The communities of their employer sponsors are indicated on the upper map. There are currently 99 non-matching scholarship recipients. The locations of their hometowns are indicated on the lower map.

Eligibility

Applicant must have been unconditionally admitted as a student in an accredited program of nursing study. Applicant must be a legal resident of Oklahoma. Applicant must be a citizen of the United States.



Scholarship Annual Maximum

| | Matching | Non-Matching |
|---------|-----------------|--------------|
| LPN | \$1,250/\$1,250 | \$1,250 |
| ADN | \$1,500/\$1,500 | \$1,500 |
| BSN/MSN | \$2,000/\$2,000 | \$2,000 |

Matching Scholarship (Annual Minimum):
All levels of nursing \$500/\$500

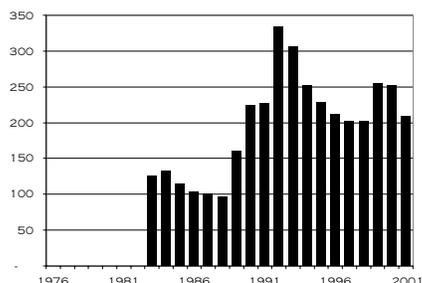
Obligation

Loan is forgiven if nurse fulfills work obligation of one year for each year of financial assistance at an approved health institution.

Penalty

If a nurse decides not to fulfill his/her work obligation by practicing nursing in the sponsoring community or in the state of Oklahoma, he/she will be required to repay the principal amount plus 12% interest and a possible penalty of up to 98% of the principal.

NURSING STUDENT ASSISTANCE PROGRAM
PMTC PROGRAM RECIPIENTS BY YEAR

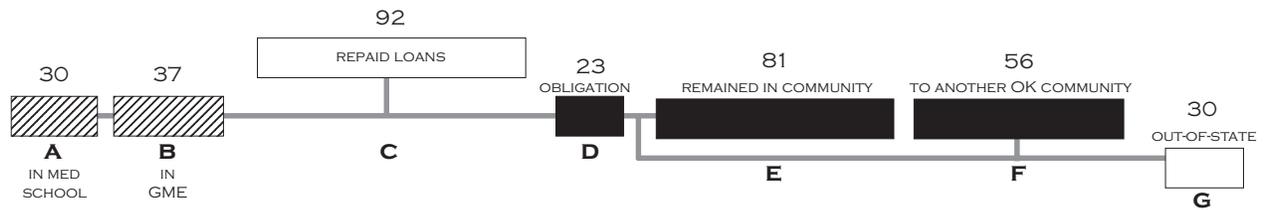


§697.17. Nursing Student Assistance Program
The purpose of the program shall be to encourage persons to enter nursing education programs and to practice in areas of this state in which there is an urgent need for nursing services or in institutions or agencies of this state which provide funds on a matching basis with the Physician Manpower Training Commission for the support of nursing students.

APPENDIX 6

PMTC RECIPIENTS BY PROGRAM

A MEDICAL STUDENT SCHOLARSHIP PROGRAM
RURAL MEDICAL EDUCATION SCHOLARSHIP LOAN PROGRAM
 (349 RECIPIENTS DURING 1976 - PRESENT)



A RESIDENT PHYSICIAN SCHOLARSHIP PROGRAM
FP/GP RESIDENT RURAL SCHOLARSHIP LOAN PROGRAM
 (84 RECIPIENTS DURING 1993 - PRESENT)



A PRACTICING PHYSICIAN SCHOLARSHIP INCENTIVE PROGRAM
PHYSICIAN COMMUNITY MATCH PROGRAM
 (108 RECIPIENTS DURING 1989 - PRESENT)



A MEDICAL STUDENT SCHOLARSHIP PROGRAM
COMMUNITY/PHYSICIAN EDUCATION SCHOLARSHIP LOAN PROGRAM
 (92 RECIPIENTS DURING 1976 - 1988)

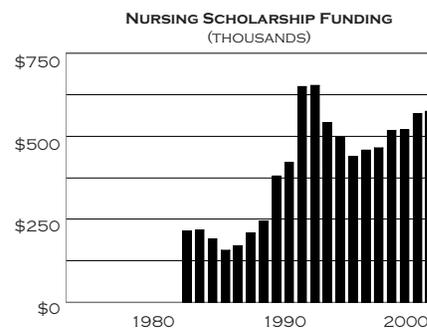
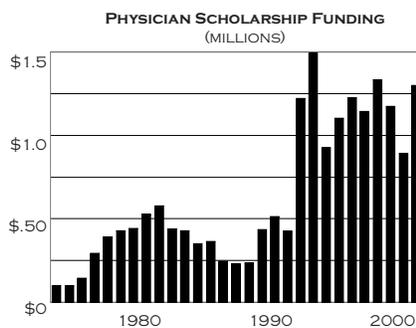
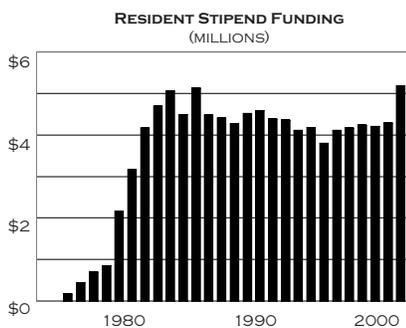


APPENDIX 7

PMTc EXPENDITURES BY PROGRAM BY YEAR, 1975 - 2000

SOURCE: OKLAHOMA PMTC. PHYSICIAN AND NURSING SCHOLARSHIP FUNDS ARE BOTH STATE AND PRIVATE SPONSOR MATCHING MONIES.

| | GME Support | Physician Scholarship | Nursing Scholarship | Other Expense | Total Expense | ----- Pct of Expense ----- | | | |
|---------------|----------------------|-----------------------|---------------------|---------------------|----------------------|----------------------------|------------|-----------|-----------|
| | | | | | | GME | Phys | Nurse | Other |
| 1974 | - | \$99,994 | - | - | \$99,994 | | | | |
| 1975 | - | 99,936 | - | - | 99,936 | | | | |
| 1976 | \$179,857 | 147,231 | - | \$24,734 | 351,822 | 51% | 42% | 0% | 7% |
| 1977 | 449,872 | 295,397 | - | 82,376 | 827,645 | 54% | 36% | 0% | 10% |
| 1978 | 710,989 | 394,298 | - | 101,014 | 1,206,301 | 59% | 33% | 0% | 8% |
| 1979 | 849,833 | 430,645 | - | 81,567 | 1,362,045 | 62% | 32% | 0% | 6% |
| 1980 | 2,160,758 | 445,079 | - | 109,895 | 2,715,732 | 80% | 16% | 0% | 4% |
| 1981 | 3,175,159 | 526,778 | - | 309,501 | 4,011,438 | 79% | 13% | 0% | 8% |
| 1982 | 4,170,211 | 577,805 | - | 376,813 | 5,124,829 | 81% | 11% | 0% | 7% |
| 1983 | 4,705,412 | 441,333 | 215,688 | 464,191 | 5,826,624 | 81% | 8% | 4% | 8% |
| 1984 | 5,065,133 | 428,492 | 218,669 | 563,935 | 6,276,229 | 81% | 7% | 3% | 9% |
| 1985 | 4,500,063 | 351,785 | 191,284 | 658,904 | 5,702,036 | 79% | 6% | 3% | 12% |
| 1986 | 5,137,583 | 364,033 | 157,128 | 597,324 | 6,256,068 | 82% | 6% | 3% | 10% |
| 1987 | 4,486,948 | 246,455 | 171,460 | 530,127 | 5,434,990 | 83% | 5% | 3% | 10% |
| 1988 | 4,410,043 | 229,624 | 210,258 | 539,371 | 5,389,296 | 82% | 4% | 4% | 10% |
| 1989 | 4,275,956 | 238,000 | 245,286 | 553,451 | 5,312,693 | 80% | 4% | 5% | 10% |
| 1990 | 4,522,409 | 436,000 | 380,430 | 721,011 | 6,059,850 | 75% | 7% | 6% | 12% |
| 1991 | 4,590,622 | 516,000 | 421,263 | 661,139 | 6,189,024 | 74% | 8% | 7% | 11% |
| 1992 | 4,381,828 | 425,333 | 650,959 | 669,208 | 6,127,328 | 72% | 7% | 11% | 11% |
| 1993 | 4,364,644 | 1,222,500 | 652,851 | 657,708 | 6,897,703 | 63% | 18% | 9% | 10% |
| 1994 | 4,113,143 | 1,493,500 | 541,939 | 614,747 | 6,763,329 | 61% | 22% | 8% | 9% |
| 1995 | 4,183,969 | 929,000 | 496,960 | 644,999 | 6,254,928 | 67% | 15% | 8% | 10% |
| 1996 | 3,808,079 | 1,103,500 | 439,656 | 335,621 | 5,686,856 | 67% | 19% | 8% | 6% |
| 1997 | 4,120,070 | 1,227,340 | 458,963 | 354,894 | 6,161,267 | 67% | 20% | 7% | 6% |
| 1998 | 4,166,641 | 1,146,125 | 464,928 | 365,285 | 6,142,979 | 68% | 19% | 8% | 6% |
| 1999 | 4,245,719 | 1,334,000 | 518,562 | 388,446 | 6,486,727 | 65% | 21% | 8% | 6% |
| 2000 | 4,212,510 | 1,175,000 | 520,069 | 388,449 | 6,296,028 | 67% | 19% | 8% | 6% |
| 2001 | 4,296,513 | 893,000 | 568,520 | 395,683 | 6,153,716 | 70% | 15% | 9% | 6% |
| 2002 | 5,188,495 | 1,301,041 | 575,837 | 410,511 | 7,475,884 | 69% | 17% | 8% | 5% |
| Totals | \$100,472,459 | \$18,519,224 | \$8,100,710 | \$11,600,904 | \$138,693,297 | 72% | 13% | 6% | 8% |



APPENDIX 8

RECIPIENTS OF PMTC ASSISTANCE

SOURCES: OKLAHOMA PHYSICIAN MANPOWER TRAINING COMMISSION

| | Graduate Medical Education Programs | | | | | Physician Incentives | | | | Nursing | Total |
|---------------|-------------------------------------|-----------|--------------|--------------|------------------|----------------------|-------------------|------------------|---------------|------------|------------|
| | OU Tulsa | OU OKC | OSU Tulsa | DO Intern | MD/DO PriCare | Medical Student | FP/GP Resident | Student Match | Phys Match | | |
| 1974 | - | - | - | - | - | - | - | - | - | - | - |
| 1975 | - | - | - | - | - | - | - | - | - | - | - |
| 1976 | - | - | - | - | 37 | 22 | - | 9 | - | - | 68 |
| 1977 | - | - | - | - | 73 | 25 | - | 28 | - | - | 126 |
| 1978 | - | - | - | - | 113 | 28 | - | 30 | - | - | 171 |
| 1979 | - | - | - | - | 153 | 29 | - | 35 | - | - | 217 |
| 1980 | 23 | 53 | - | - | 111 | 34 | - | 32 | - | - | 253 |
| 1981 | 38 | 53 | - | - | 138 | 33 | - | 36 | - | - | 298 |
| 1982 | 43 | 46 | - | - | 134 | 42 | - | 30 | - | - | 295 |
| 1983 | 45 | 46 | - | - | 139 | 48 | - | 21 | - | 125 | 424 |
| 1984 | 46 | 49 | - | - | 139 | 44 | - | 14 | - | 133 | 425 |
| 1985 | 46 | 53 | - | 53 | 138 | 43 | - | 12 | - | 115 | 460 |
| 1986 | 46 | 53 | - | 66 | 139 | 38 | - | 8 | - | 103 | 453 |
| 1987 | 46 | 53 | - | 66 | 131 | 40 | - | 1 | - | 101 | 438 |
| 1988 | 45 | 39 | - | 62 | 126 | 29 | - | - | - | 97 | 398 |
| 1989 | 41 | 44 | - | 59 | 123 | 34 | - | - | - | 160 | 461 |
| 1990 | 42 | 38 | - | 62 | 137 | 32 | - | - | 5 | 225 | 541 |
| 1991 | 37 | 38 | - | 53 | 115 | 37 | - | - | 5 | 226 | 511 |
| 1992 | 35 | 30 | 9 | 44 | 123 | 38 | - | - | 2 | 334 | 615 |
| 1993 | 24 | 38 | 8 | 44 | 104 | 40 | 5 | - | 10 | 306 | 579 |
| 1994 | 31 | 35 | 13 | 51 | 63 | 39 | 12 | - | 11 | 252 | 507 |
| 1995 | 30 | 37 | 16 | 33 | 51 | 38 | 18 | - | 10 | 228 | 461 |
| 1996 | 32 | 32 | 20 | 25 | 52 | 37 | 22 | - | 11 | 212 | 443 |
| 1997 | 39 | 48 | 18 | 33 | - | 44 | 29 | - | 11 | 201 | 423 |
| 1998 | 40 | 44 | 17 | 32 | - | 40 | 32 | - | 8 | 202 | 415 |
| 1999 | 34 | 31 | 25 | 30 | - | 38 | 32 | - | 14 | 254 | 458 |
| 2000 | 36 | 36 | 28 | 30 | - | 38 | 32 | - | 11 | 252 | 463 |
| 2001 | 38 | 30 | 25 | 20 | - | 30 | 25 | - | 6 | 209 | 383 |
| 2002* | 48 | 60 | 29 | 30 | - | 30 | 23 | - | 10 | 280 | 510 |
| AVG ** | 38 | 42 | 18 | 45 | 115 | 38 | 23 | 17 | 9 | 197 | 441 |

NOTES:

* 2002 data is estimated

** Averages include data through 2001

APPENDIX 9

GRADUATES OF FAMILY MEDICINE RESIDENCY PROGRAMS IN OKLAHOMA

SOURCES: DEPARTMENTS OF FAMILY MEDICINE, UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE (OKLAHOMA CITY); OFFICE OF STUDENT AND RESIDENT AFFAIRS, DEPARTMENTS OF FAMILY MEDICINE, UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE (TULSA); DEPARTMENT OF FAMILY MEDICINE, OKLAHOMA STATE UNIVERSITY COLLEGE OF OSTEOPATHIC MEDICINE. DATA WAS NOT AVAILABLE FROM OSTEOPATHIC INTERNSHIP PROGRAMS.

| | University of Oklahoma | | | | | | | Oklahoma State University | | | TOTALS |
|--------------|------------------------|-----------|------------|------------|-----------|----------|------------|---------------------------|----------|----------|------------|
| | Oklahoma City | | | Tulsa | | | | Tulsa | Durant | Interns | |
| | OKC | Other* | All | Tulsa | B'ville | Ramona | All | | | | |
| 1975 | 5 | - | 5 | - | - | - | - | - | - | - | 5 |
| 1976 | 6 | - | 6 | 1 | - | - | 1 | - | - | - | 7 |
| 1977 | 4 | - | 4 | 5 | - | - | 5 | - | - | - | 9 |
| 1978 | 6 | 1 | 7 | 9 | - | - | 9 | - | - | - | 16 |
| 1979 | 7 | 3 | 10 | 7 | - | - | 7 | - | - | - | 17 |
| 1980 | 15 | 0 | 15 | 11 | 1 | - | 12 | - | - | - | 27 |
| 1981 | 12 | 7 | 19 | 13 | 2 | - | 15 | - | - | - | 34 |
| 1982 | 8 | 7 | 15 | 13 | 4 | - | 17 | - | - | - | 32 |
| 1983 | 7 | 6 | 13 | 14 | 3 | - | 17 | - | - | - | 30 |
| 1984 | 7 | 5 | 12 | 13 | 4 | - | 17 | - | - | - | 29 |
| 1985 | 9 | 6 | 15 | 13 | 2 | - | 15 | - | - | - | 30 |
| 1986 | 14 | 4 | 18 | 11 | 3 | - | 14 | - | - | - | 32 |
| 1987 | 15 | 3 | 18 | 12 | 5 | - | 17 | - | - | - | 35 |
| 1988 | 12 | 3 | 15 | 16 | 4 | -- | 20 | - | - | - | 35 |
| 1989 | 10 | 4 | 14 | 11 | 4 | - | 15 | 2 | - | - | 31 |
| 1990 | 8 | 3 | 11 | 10 | 6 | - | 16 | 3 | - | - | 30 |
| 1991 | 11 | 4 | 15 | 18 | 4 | - | 22 | 2 | - | - | 39 |
| 1992 | 8 | 3 | 11 | 15 | 3 | - | 18 | 7 | - | - | 36 |
| 1993 | 7 | 1 | 8 | 11 | 1 | - | 12 | 1 | - | - | 21 |
| 1994 | 5 | 3 | 8 | 11 | - | - | 11 | 4 | - | - | 23 |
| 1995 | 5 | 4 | 9 | 8 | - | - | 8 | 6 | - | - | 23 |
| 1996 | 9 | 2 | 11 | 13 | - | - | 13 | 7 | - | - | 31 |
| 1997 | 11 | ** 0 | 11 | 11 | - | - | 11 | 8 | - | - | 30 |
| 1998 | 11 | ** 0 | 11 | 17 | - | - | 17 | 5 | - | - | 33 |
| 1999 | 13 | ** 0 | 13 | 16 | - | 3 | 19 | 5 | - | - | 37 |
| 2000 | 10 | ** 0 | 10 | 11 | - | 0 | 11 | 10 | 3 | - | 34 |
| 2001 | 14 | ** 0 | 14 | 8 | - | 1 | 9 | 6 | 3 | - | 32 |
| Total | 249 | 69 | 318 | 298 | 46 | 4 | 348 | 66 | 6 | - | 738 |

* Includes both the Enid and Shawnee Family Medicine Residency Programs.

** Included in Total

APPENDIX 10

ANNUAL COMMUNITY ECONOMIC IMPACTS OF PMTC ASSISTED PHYSICIANS

HOW TO READ: ADA IS CURRENTLY BEING SERVED BY 6 PHYSICIANS WHO ARE PMTC SCHOLARSHIP OR LOAN RECIPIENTS. THESE PHYSICIANS WILL ANNUALLY GENERATE 252 JOBS IN THE ADA AREA. THESE JOBS WILL GENERATE AN ESTIMATED \$7.2 MILLION OF INCOME ANNUALLY. STATEWIDE, 338 PMTC ASSISTED PHYSICIANS GENERATE 16,847 JOBS THAT WILL GENERATE ANNUAL INCOMES OF \$395 MILLION. THERE WILL BE 12,063 JOBS GENERATING INCOME OF \$297 MILLION IN RURAL COUNTIES.

| CITY OF PRACTICE | 2000 POPULATION | PMTC PHYSICIANS | ANNUAL JOBS | ANNUAL INCOME | CITY OF PRACTICE | 2000 POPULATION | PMTC PHYS | ANNUAL JOBS | ANNUAL INCOME |
|------------------|-----------------|-----------------|-------------|---------------|-------------------|-----------------|------------|---------------|----------------------|
| Ada | 15,270 | 6 | 252 | \$7,160,286 | Mannford | 2,040 | 1 | 58 | 1,282,781 |
| Allen | 1,050 | 1 | 42 | 1,193,381 | Marietta | 2,550 | 2 | 165 | 3,476,887 |
| Altus | 20,980 | 1 | 55 | 1,286,875 | Marlow | 4,550 | 3 | 189 | \$4,144,488 |
| Alva | 4,970 | 4 | 278 | 6,191,940 | McAlester | 17,420 | 6 | 217 | 6,434,956 |
| Anadarko | 6,760 | 1 | 44 | 1,067,636 | McLoud | 2,900 | 1 | 40 | 1,031,894 |
| Antlers | 2,590 | 3 | 214 | 5,138,516 | Miami | 13,360 | 3 | 193 | 4,640,241 |
| Ardmore | 24,100 | 1 | 43 | 1,120,299 | Midwest City | 54,170 | 1 | 26 | 842,695 |
| Bartlesville | 33,690 | 2 | 75 | 2,132,745 | Muldrow | 3,300 | 1 | 46 | 1,027,004 |
| Beaver | 1,430 | 2 | 53 | 1,741,767 | Muskogee | 38,430 | 2 | 70 | 2,258,795 |
| Bixby | 13,280 | 1 | 26 | 845,949 | Mustang | 12,890 | 1 | 34 | 881,670 |
| Blackwell | 7,150 | 2 | 78 | 2,124,964 | Newcastle | 5,520 | 1 | 41 | 991,282 |
| Bristow | 4,400 | 3 | 173 | 3,848,344 | Noble | 5,350 | 1 | 36 | 970,745 |
| Broken Bow | 4,730 | 1 | 44 | 1,130,664 | Norman | 94,190 | 7 | 253 | 6,795,212 |
| Carnegie | 1,740 | 2 | 87 | 2,135,272 | Nowata | 3,710 | 3 | 163 | 3,404,358 |
| Chandler | 2,760 | 1 | 80 | 1,451,046 | Okeene | 1,170 | 2 | 125 | 2,647,868 |
| Cheyenne | 700 | 1 | 34 | 1,058,243 | Okemah | 2,860 | 1 | 65 | 1,518,231 |
| Chickasha | 16,580 | 6 | 187 | 5,498,630 | Oklahoma City | 475,320 | 9 | 233 | 7,584,256 |
| Claremore | 21,780 | 6 | 197 | 5,751,141 | Okmulgee | 13,720 | 3 | 148 | 3,517,582 |
| Cleveland | 3,010 | 1 | 50 | 1,167,598 | Oologah | 1,010 | 2 | 66 | 1,917,047 |
| Clinton | 8,650 | 4 | 168 | 4,995,538 | Owasso | 16,290 | 2 | 52 | 1,691,898 |
| Collinsville | 4,140 | 1 | 26 | 845,949 | Pawls Valley | 5,660 | 5 | 260 | 6,210,488 |
| Copan | 780 | 1 | 37 | 1,066,372 | Pawhuska | 3,610 | 1 | 48 | 1,060,455 |
| Cordell | 2,710 | 1 | 116 | 1,840,386 | Pawnee | 2,110 | 3 | 150 | 3,502,794 |
| Coweta | 7,380 | 2 | 170 | 3,098,458 | Perry | 5,360 | 4 | 269 | 5,834,649 |
| Cushing | 7,930 | 9 | 225 | 7,264,601 | Ponca City | 26,050 | 4 | 157 | 4,249,928 |
| Davis | 2,770 | 1 | 23 | 831,857 | Poteau | 7,790 | 4 | 187 | 5,035,919 |
| Dewey | 3,290 | 1 | 37 | 1,066,372 | Prague | 2,330 | 2 | 160 | 2,902,093 |
| Drumright | 2,880 | 3 | 173 | 3,848,344 | Pryor | 8,990 | 8 | 306 | 8,134,175 |
| Duncan | 21,800 | 4 | 253 | 5,525,984 | Purcell | 5,270 | 4 | 164 | 3,965,126 |
| Durant | 12,990 | 2 | 91 | 2,301,895 | Quapaw | 910 | 1 | 64 | 1,546,747 |
| Edmond | 66,760 | 5 | 130 | 4,213,475 | Ramona | 520 | 1 | 37 | 1,066,372 |
| Elgin | 1,000 | 1 | 40 | 1,273,017 | Sallisaw | 7,870 | 4 | 185 | 4,108,017 |
| Elk City | 11,120 | 4 | 210 | 4,858,584 | Sayre | 3,060 | 3 | 158 | 3,643,938 |
| Enid | 45,200 | 7 | 322 | 8,098,622 | Seminole | 6,800 | 6 | 435 | 8,082,173 |
| Eufaula | 3,490 | 1 | 58 | 1,151,866 | Shattuck | 1,370 | 3 | 128 | 3,569,072 |
| Fairfax | 1,610 | 3 | 145 | 3,181,366 | Shawnee | 27,980 | 3 | 120 | 3,095,681 |
| Fairview | 2,660 | 2 | 136 | 2,720,400 | Skiatook | 5,670 | 3 | 145 | 3,181,366 |
| Gore | 900 | 1 | 46 | 1,027,004 | Spiro | 2,450 | 2 | 94 | 2,517,959 |
| Granite | 1,940 | 1 | 27 | 823,237 | Stigler | 2,470 | 2 | 107 | 2,326,029 |
| Grove | 5,540 | 10 | 488 | 11,793,158 | Stillwater | 38,440 | 6 | 150 | 4,843,067 |
| Guthrie | 10,170 | 3 | 240 | 4,593,817 | Stilwell | 3,380 | 2 | 63 | 1,841,027 |
| Guymon | 8,920 | 4 | 113 | 3,446,051 | Stroud | 2,920 | 1 | 80 | 1,451,046 |
| Harrah | 5,010 | 3 | 78 | 2,528,085 | Sulphur | 5,050 | 3 | 70 | 2,495,572 |
| Healdton | 2,950 | 1 | 43 | 1,120,299 | Taft | 410 | 1 | 35 | 1,129,397 |
| Heavener | 2,440 | 2 | 94 | 2,517,959 | Tahlequah | 13,010 | 5 | 211 | 5,353,245 |
| Henryetta | 6,060 | 4 | 197 | 4,690,109 | Tecumseh | 5,870 | 1 | 40 | 1,031,894 |
| Hobart | 3,730 | 2 | 101 | 2,274,181 | Tishomingo | 2,980 | 2 | 47 | 1,663,715 |
| Holdenville | 5,870 | 4 | 230 | 5,271,932 | Tonkawa | 2,980 | 1 | 39 | 1,062,482 |
| Hollis | 2,310 | 1 | 41 | 971,776 | Tulsa | 381,580 | 12 | 311 | 10,151,391 |
| Hominy | 3,120 | 2 | 97 | 2,120,911 | Valliant | 920 | 1 | 44 | 1,130,664 |
| Hugo | 5,900 | 2 | 95 | 2,666,472 | Vinita | 5,740 | 4 | 664 | 14,984,455 |
| Hydro | 890 | 1 | 38 | 1,067,636 | Wagoner | 7,390 | 4 | 340 | 6,196,915 |
| Idabel | 7,370 | 6 | 266 | 6,783,984 | Watonga | 3,010 | 2 | 125 | 2,647,868 |
| Jay | 2,460 | 1 | 49 | 1,179,316 | Waurika | 1,740 | 1 | 54 | 1,219,389 |
| Jenks | 9,700 | 1 | 26 | 845,949 | Weatherford | 9,760 | 3 | 126 | 3,746,653 |
| Kansas | 690 | 1 | 49 | 1,179,316 | Wilburton | 3,160 | 3 | 89 | 3,130,872 |
| Ketchum | 290 | 1 | 166 | 3,746,114 | Woodward | 12,190 | 9 | 409 | 11,783,805 |
| Kingfisher | 4,280 | 2 | 129 | 2,973,797 | Yukon | 22,760 | 2 | 68 | 1,763,339 |
| Kingston | 1,540 | 1 | 61 | 1,356,374 | TOTALS | | 338 | 15,876 | \$395,359,589 |
| Langley | 610 | 1 | 38 | 1,016,772 | Rural | | 240 | 12,063 | \$296,660,506 |
| Lawton | 79,930 | 2 | 80 | 2,546,033 | Urban | | 98 | 3,814 | \$98,699,084 |
| Lindsay | 2,780 | 1 | 52 | 1,242,098 | State of Oklahoma | | 338 | 15,876 | \$395,359,589 |
| Locust Grove | 1,480 | 1 | 38 | 1,016,772 | | | | | |
| Madill | 3,140 | 4 | 246 | 5,425,495 | | | | | |

APPENDIX 11

CUMULATIVE COMMUNITY ECONOMIC IMPACTS OF PMTC ASSISTED PHYSICIANS

HOW TO READ: ADA HAS BEEN SERVED FOR 51 PHYSICIAN-YEARS BY PMTC ASSISTED PHYSICIANS. THESE PHYSICIANS HAVE GENERATED DIRECT JOBS IN THE ADA HEALTH CARE SECTOR THAT PROVIDED \$36.2 MILLION OF INCOME. THIS INCOME HAS, IN TURN, PROVIDED FOR AN ADDITIONAL SECONDARY ECONOMIC IMPACT OF \$24.9 MILLION OF INCOME IN THE NON-HEALTH CARE SECTOR. THE TOTAL ECONOMIC IMPACT IS \$61.2 MILLION.

| ----- CUMULATIVE IMPACT ----- (MILLIONS) | | | | | | ----- CUMULATIVE IMPACT ----- (MILLIONS) | | | | | |
|---|------------|-------|--------|-----------|--------|---|------------|--------------|------------------|------------------|------------------|
| CITY | POPULATION | YEARS | DIRECT | SECONDARY | TOTAL | CITY | POPULATION | YEARS | DIRECT | SECONDARY | TOTAL |
| Ada | 15,270 | 51 | \$36.2 | \$24.9 | \$61.2 | Mangum | 2,890 | 3 | \$1.7 | \$1.1 | \$2.8 |
| Allen | 1,050 | 1 | 0.7 | 0.5 | 1.2 | Mannford | 2,040 | 15 | 11.4 | 7.9 | 19.2 |
| Altus | 20,980 | 12 | 9.4 | 5.7 | 15.1 | Marietta | 2,550 | 13 | 14.8 | 7.8 | 22.6 |
| Alva | 4,970 | 49 | 49.4 | 26.6 | 76.0 | Marlow | 4,550 | 33 | 27.1 | 18.9 | 46.0 |
| Anadarko | 6,760 | 21 | 13.8 | 8.6 | 22.4 | Maysville | 1,110 | 3 | 2.3 | 1.4 | 3.7 |
| Anflers | 2,590 | 39 | 44.3 | 22.5 | 66.8 | McAlester | 17,420 | 67 | 38.1 | 33.8 | 71.9 |
| Ardmore | 24,100 | 11 | 7.2 | 5.1 | 12.3 | McLoud | 2,900 | 5 | 2.9 | 2.2 | 5.2 |
| Atoka | 3,340 | 5 | 4.9 | 3.2 | 8.1 | Miami | 13,360 | 13 | 12.7 | 7.4 | 20.1 |
| Bartlesville | 33,690 | 5 | 3.0 | 2.3 | 5.3 | Midwest City | 54,170 | 12 | 5.7 | 4.4 | 10.1 |
| Beaver | 1,430 | 8 | 4.4 | 2.5 | 7.0 | Mounds | 1,030 | 2 | 1.5 | 1.1 | 2.6 |
| Binger | 640 | 3 | 2.0 | 1.2 | 3.2 | Muldrow | 3,300 | 15 | 8.3 | 7.1 | 15.4 |
| Bixby | 13,280 | 21 | 9.8 | 7.9 | 17.8 | Muskogee | 38,430 | 8 | 5.7 | 3.3 | 9.0 |
| Blackwell | 7,150 | 16 | 10.0 | 7.0 | 17.0 | Mustang | 12,890 | 16 | 7.8 | 6.5 | 14.3 |
| Bristow | 4,400 | 19 | 14.4 | 10.0 | 24.4 | Newcastle | 5,520 | 6 | 3.4 | 2.5 | 5.9 |
| Broken Bow | 4,730 | 21 | 15.5 | 8.2 | 23.7 | Noble | 5,350 | 9 | 4.7 | 4.0 | 8.7 |
| Carnegie | 1,740 | 22 | 14.8 | 9.2 | 23.9 | Norman | 94,190 | 71 | 37.2 | 31.7 | 68.9 |
| Catoosa | 5,570 | 3 | 1.6 | 1.2 | 2.9 | Nowata | 3,710 | 25 | 16.3 | 12.1 | 28.4 |
| Chandler | 2,760 | 23 | 19.8 | 13.5 | 33.4 | Okeene | 1,170 | 23 | 19.6 | 10.8 | 30.5 |
| Cherokee | 1,490 | 5 | 4.0 | 2.3 | 6.3 | Okemah | 2,860 | 9 | 9.3 | 4.3 | 13.7 |
| Cheyenne | 700 | 3 | 2.1 | 1.1 | 3.2 | Oklahoma City | 475,320 | 72 | 34.0 | 26.7 | 60.7 |
| Chickasha | 16,580 | 22 | 11.7 | 8.4 | 20.2 | Okmulgee | 13,720 | 10 | 7.0 | 4.7 | 11.7 |
| Claremore | 21,780 | 27 | 14.7 | 11.1 | 25.9 | Oologah | 1,010 | 32 | 17.5 | 13.2 | 30.7 |
| Cleveland | 3,010 | 8 | 5.4 | 3.8 | 9.2 | Owasso | 16,290 | 38 | 17.8 | 14.4 | 32.1 |
| Clinton | 8,650 | 41 | 29.6 | 21.6 | 51.2 | Pauls Valley | 5,660 | 39 | 30.2 | 18.2 | 48.4 |
| Coalgate | 1,900 | 3 | 7.5 | 2.6 | 10.1 | Pawhuska | 3,610 | 8 | 5.1 | 3.4 | 8.5 |
| Colbert | 1,230 | 2 | 1.4 | 0.9 | 2.3 | Pawnee | 2,110 | 16 | 10.9 | 7.7 | 18.7 |
| Collinsville | 4,140 | 9 | 4.2 | 3.4 | 7.6 | Perry | 5,360 | 63 | 63.4 | 28.2 | 91.6 |
| Copan | 780 | 4 | 2.4 | 1.9 | 4.3 | Ponca City | 26,050 | 30 | 18.8 | 13.1 | 31.9 |
| Cordell | 2,710 | 7 | 8.5 | 4.4 | 12.9 | Pond Creek | 780 | 5 | 5.7 | 4.3 | 9.9 |
| Coweta | 7,380 | 26 | 22.6 | 17.6 | 40.3 | Poteau | 7,790 | 52 | 40.6 | 24.5 | 65.1 |
| Cushing | 7,930 | 93 | 44.2 | 30.9 | 75.1 | Prague | 2,330 | 15 | 12.9 | 8.8 | 21.8 |
| Davis | 2,770 | 5 | 2.4 | 1.8 | 4.2 | Pryor | 8,990 | 50 | 31.3 | 19.6 | 50.8 |
| Dewey | 3,290 | 2 | 1.2 | 0.9 | 2.1 | Purcell | 5,270 | 50 | 28.1 | 21.0 | 49.6 |
| Drumright | 2,880 | 17 | 12.9 | 8.9 | 21.8 | Quapaw | 910 | 12 | 11.7 | 6.8 | 18.6 |
| Duncan | 21,800 | 27 | 22.0 | 15.3 | 37.3 | Ramona | 520 | 17 | 10.2 | 8.0 | 18.1 |
| Durant | 12,990 | 24 | 16.6 | 11.1 | 27.6 | Ratliff City | 160 | 2 | 1.3 | 0.9 | 2.2 |
| Edmond | 66,760 | 37 | 17.5 | 13.7 | 31.2 | Sallisaw | 7,870 | 59 | 32.5 | 27.7 | 60.3 |
| Elgin | 1,000 | 5 | 4.2 | 2.1 | 6.4 | Sayre | 3,060 | 31 | 22.1 | 15.6 | 37.7 |
| Elk City | 11,120 | 20 | 14.3 | 10.0 | 24.3 | Seminole | 6,800 | 44 | 34.2 | 25.1 | 59.3 |
| Enid | 45,200 | 55 | 36.4 | 27.3 | 63.6 | Shattuck | 1,370 | 10 | 7.7 | 4.2 | 11.9 |
| Eufaula | 3,490 | 9 | 5.9 | 4.5 | 10.4 | Shawnee | 27,980 | 12 | 7.0 | 5.4 | 12.4 |
| Fairfax | 1,610 | 53 | 33.4 | 22.6 | 56.0 | Skiatook | 5,670 | 11 | 7.0 | 4.7 | 11.7 |
| Fairview | 2,660 | 31 | 27.5 | 14.7 | 42.2 | Spiro | 2,450 | 15 | 11.8 | 7.1 | 18.9 |
| Frederick | 4,660 | 2 | 2.8 | 1.5 | 4.3 | Stigler | 2,470 | 17 | 11.8 | 7.9 | 19.8 |
| Gore | 900 | 14 | 7.8 | 6.6 | 14.4 | Stillwater | 38,440 | 52 | 24.7 | 17.3 | 42.0 |
| Granite | 1,940 | 12 | 6.0 | 3.9 | 9.9 | Stilwell | 3,380 | 52 | 28.2 | 19.2 | 47.4 |
| Grove | 5,540 | 95 | 68.5 | 43.5 | 111.9 | Stroud | 2,920 | 3 | 2.6 | 1.8 | 4.4 |
| Guthrie | 10,170 | 10 | 9.3 | 6.0 | 15.3 | Sulphur | 5,050 | 13 | 6.1 | 4.7 | 10.8 |
| Guymon | 8,920 | 41 | 20.5 | 14.9 | 35.3 | Taft | 410 | 17 | 12.1 | 7.1 | 19.2 |
| Harrah | 5,010 | 22 | 10.5 | 8.3 | 18.8 | Tahlequah | 13,010 | 53 | 34.6 | 22.2 | 56.7 |
| Haskell | 2,060 | 2 | 1.4 | 0.8 | 2.3 | Talihina | 1,420 | 2 | 1.6 | 0.9 | 2.5 |
| Healdton | 2,950 | 14 | 9.2 | 6.5 | 15.7 | Tecumseh | 5,870 | 3 | 1.8 | 1.3 | 3.1 |
| Heavener | 2,440 | 28 | 22.0 | 13.3 | 35.3 | Texhoma | 850 | 3 | 1.5 | 1.1 | 2.6 |
| Helena | 1,060 | 3 | 2.3 | 1.3 | 3.6 | Tishomingo | 2,980 | 9 | 4.3 | 3.2 | 7.5 |
| Henryetta | 6,060 | 32 | 22.4 | 15.2 | 37.5 | Tonkawa | 2,980 | 22 | 13.9 | 9.7 | 23.6 |
| Hobart | 3,730 | 13 | 8.9 | 5.8 | 14.8 | Tulsa | 381,580 | 107 | 50.1 | 40.4 | 90.5 |
| Holdenville | 5,870 | 37 | 30.3 | 18.4 | 48.8 | Tuttle | 4,220 | 6 | 3.2 | 2.3 | 5.5 |
| Hollis | 2,310 | 7 | 4.2 | 2.6 | 6.8 | Valliant | 920 | 21 | 15.5 | 8.2 | 23.7 |
| Hominy | 3,120 | 8 | 5.1 | 3.4 | 8.5 | Vinita | 5,740 | 42 | 118.0 | 39.3 | 157.3 |
| Hooker | 1,590 | 4 | 2.0 | 1.5 | 3.4 | Wagoner | 7,390 | 35 | 30.5 | 23.8 | 54.2 |
| Hugo | 5,900 | 7 | 6.0 | 3.3 | 9.3 | Warner | 1,610 | 5 | 3.6 | 2.1 | 5.6 |
| Hydro | 890 | 5 | 3.3 | 2.0 | 5.3 | Watonga | 3,010 | 12 | 10.2 | 5.7 | 15.9 |
| Idabel | 7,370 | 67 | 49.4 | 26.3 | 75.8 | Waurika | 1,740 | 9 | 7.1 | 3.9 | 11.0 |
| Inola | 1,690 | 2 | 1.1 | 0.8 | 1.9 | Waynoka | 810 | 5 | 5.0 | 2.7 | 7.7 |
| Jay | 2,460 | 12 | 8.7 | 5.5 | 14.2 | Weatherford | 9,760 | 43 | 31.0 | 22.7 | 53.7 |
| Jenks | 9,700 | 15 | 7.0 | 5.7 | 12.7 | Wetumka | 1,470 | 4 | 3.3 | 2.0 | 5.3 |
| Kansas | 690 | 19 | 13.7 | 8.7 | 22.4 | Wilburton | 3,160 | 29 | 19.0 | 11.1 | 30.1 |
| Ketchum | 290 | 6 | 16.9 | 5.6 | 22.5 | Woodward | 12,190 | 29 | 24.6 | 13.3 | 38.0 |
| Kingfisher | 4,280 | 16 | 16.0 | 7.8 | 23.8 | Yukon | 22,760 | 29 | 14.0 | 11.6 | 25.6 |
| Langley | 610 | 7 | 4.4 | 2.7 | 7.1 | TOTALS | | 3,107 | \$2,215.7 | \$1,430.2 | \$3,645.9 |
| Lawton | 79,930 | 20 | 16.9 | 8.5 | 25.5 | Rural | | 2,179 | \$1,689.9 | \$1,025.9 | \$2,715.8 |
| Lindsay | 2,780 | 10 | 7.7 | 4.7 | 12.4 | Urban | | 928 | \$525.9 | \$404.3 | \$930.1 |
| Locust Grove | 1,480 | 13 | 8.1 | 5.1 | 13.2 | State of Oklahoma | | 3,107 | \$2,215.7 | \$1,430.2 | \$3,645.9 |
| Madill | 3,140 | 36 | 30.4 | 18.4 | 48.8 | | | | | | |

APPENDIX 13

NUMBER OF NURSING SCHOLARSHIP (NON-MATCHING) RECIPIENTS BY HOMETOWN

SOURCE: OKLAHOMA PHYSICIAN MANPOWER TRAINING COMMISSION

| | | | | | | | |
|--------------|---|-------------|---|---------------|----|-------------|----|
| Ada | 7 | Duncan | 4 | Kaw City | 1 | Pittsburg | 1 |
| Afton | 1 | Durant | 2 | Kingfisher | 1 | Ponca City | 1 |
| Allen | 2 | Edmond | 4 | Kiowa | 1 | Porum | 1 |
| Altus | 1 | El Reno | 5 | Krebs | 1 | Pryor | 2 |
| Alva | 4 | Elk City | 4 | Kremlin | 1 | Purcell | 1 |
| Anadarko | 2 | Elmore City | 1 | Lahoma | 1 | Quapaw | 1 |
| Antlers | 2 | Enid | 4 | Lamont | 1 | Quinton | 2 |
| Ardmore | 3 | Eufaula | 3 | Lawton | 5 | Red Oak | 1 |
| Barnsdall | 2 | Fairland | 2 | Lexington | 1 | Reed | 1 |
| Bartlesville | 3 | Fairview | 2 | Locust Grove | 1 | Ringling | 2 |
| Bethany | 3 | Fargo | 1 | Lone Grove | 1 | Roff | 1 |
| Blanchard | 1 | Fitzhugh | 1 | Lookeba | 1 | Salina | 1 |
| Bristow | 1 | Fletcher | 1 | Mangum | 1 | Sayre | 2 |
| Broken Arrow | 3 | Fort Cobb | 1 | Mannford | 1 | Shattuck | 2 |
| Burns Flat | 3 | Francis | 1 | Marlow | 3 | Shawnee | 5 |
| Canadian | 1 | Frederick | 2 | Maud | 1 | Stigler | 3 |
| Catoosa | 1 | Ft. Cobb | 1 | Maysville | 1 | Stillwater | 3 |
| Chattanooga | 1 | Ft. Gibson | 2 | McAlester | 9 | Stilwell | 4 |
| Checotah | 1 | Gene Autry | 1 | McLoud | 1 | Tahlequah | 7 |
| Chickasha | 4 | Glenpool | 1 | Miami | 6 | Talihina | 3 |
| Choctaw | 1 | Gore | 4 | Midwest City | 4 | Tecumseh | 2 |
| Claremore | 4 | Gowen | 1 | Milburn | 2 | Tishomingo | 1 |
| Clayton | 2 | Grove | 3 | Moore | 1 | Tonkawa | 3 |
| Cleveland | 2 | Guthrie | 3 | Mooreland | 1 | Tulsa | 11 |
| Clinton | 5 | Guymon | 2 | Morrison | 2 | Verden | 1 |
| Colcord | 3 | Haileyville | 1 | Muse | 1 | Vinita | 4 |
| Collinsville | 1 | Hartshorne | 2 | Muskogee | 6 | Wagoner | 1 |
| Comanche | 1 | Haywood | 1 | Mustang | 1 | Warner | 2 |
| Copan | 1 | Heavener | 1 | Newalla | 1 | Watonga | 1 |
| Cordell | 2 | Hennepin | 1 | Newkirk | 1 | Watts | 1 |
| Corn | 1 | Henryetta | 4 | Noble | 2 | Weatherford | 11 |
| Covington | 1 | Hinton | 2 | Norman | 9 | Welch | 1 |
| Coweta | 1 | Hobart | 1 | Nowata | 2 | Weleetka | 1 |
| Crescent | 1 | Holdenville | 2 | Oakwood | 1 | Wilburton | 2 |
| Cromwell | 1 | Hulbert | 2 | Ochelata | 2 | Wister | 1 |
| Cushing | 1 | Hydro | 1 | Okemah | 1 | Woodward | 7 |
| Davis | 1 | Idabel | 1 | Oklahoma City | 11 | Wynnewood | 1 |
| Delaware | 1 | Inola | 1 | Owasso | 1 | Yukon | 3 |
| Disney | 1 | Jay | 2 | Parkhill | 1 | | |
| Dover | 1 | Kansas | 2 | Pauls Valley | 1 | | |

APPENDIX 14

VALUE OF NURSE SCHOLARSHIPS BY COMMUNITY

HOW TO READ: NURSES ARE VARIOUSLY CATEGORIZED BY HOMETOWN, COMMUNITY OF EMPLOYER OR COMMUNITY OF SPONSOR. THESE CATEGORIES WERE AGGREGATED TO PROVIDE UNDUPLICATED COUNTS FOR EACH COMMUNITY. ADA HAD 69 RECIPIENTS OF NURSE SCHOLARSHIPS; GIVEN THE AVERAGE VALUE OF A SCHOLARSHIP, NURSES RELATED TO ADA RECEIVED \$182,365 OF ASSISTANCE. SOURCE: OKLAHOMA PHYSICIAN MANPOWER TRAINING COMMISSION

| COMMUNITY | No. | EST. VALUE | COMMUNITY | No. | EST. VALUE | COMMUNITY | No. | EST. VALUE | COMMUNITY | No. | EST. VALUE |
|--------------|-----|------------|-------------|-----|------------|---------------|-----|------------|----------------|--------------|--------------------|
| Ada | 69 | 182,365 | Dover | 1 | 2,643 | Kremlin | 1 | 2,643 | Quapaw | 2 | 5,286 |
| Afton | 1 | 2,643 | Drumright | 6 | 15,858 | Lahoma | 1 | 2,643 | Quinton | 5 | 13,215 |
| Allen | 3 | 7,929 | Duncan | 59 | 155,935 | Lamont | 1 | 2,643 | Red Oak | 1 | 2,643 |
| Altus | 76 | 200,866 | Durant | 14 | 37,002 | Langley | 1 | 2,643 | Reed | 1 | 2,643 |
| Alva | 23 | 60,788 | Edmond | 11 | 29,073 | Lawton | 41 | 108,362 | Ringling | 4 | 10,572 |
| Anadarko | 14 | 37,002 | El Reno | 43 | 113,648 | Leedy | 1 | 2,643 | Roff | 1 | 2,643 |
| Antlers | 7 | 18,501 | Elk City | 53 | 140,077 | Lexington | 7 | 18,501 | Ryan | 4 | 10,572 |
| Ardmore | 61 | 161,221 | Elmore City | 1 | 2,643 | Lindsay | 9 | 23,787 | Salina | 2 | 5,286 |
| Atoka | 9 | 23,787 | Enid | 123 | 325,085 | Locust Grove | 2 | 5,286 | Sallisaw | 4 | 10,572 |
| Barnsdall | 5 | 13,215 | Eufaula | 21 | 55,502 | Lone Grove | 1 | 2,643 | Sand Springs | 8 | 21,144 |
| Bartlesville | 36 | 95,147 | Fairfax | 10 | 26,430 | Lookeba | 1 | 2,643 | Sapulpa | 9 | 23,787 |
| Beaver | 11 | 29,073 | Fairland | 3 | 7,929 | Madill | 3 | 7,929 | Sayre | 17 | 44,930 |
| Bethany | 11 | 29,073 | Fairview | 17 | 44,930 | Mangum | 12 | 31,716 | Seiling | 6 | 15,858 |
| Billings | 1 | 2,643 | Fargo | 1 | 2,643 | Mannford | 2 | 5,286 | Seminole | 10 | 26,430 |
| Binger | 2 | 5,286 | Fitzhugh | 1 | 2,643 | Marietta | 1 | 2,643 | Shattuck | 17 | 44,930 |
| Bixby | 5 | 13,215 | Fletcher | 1 | 2,643 | Marlow | 8 | 21,144 | Shawnee | 32 | 84,575 |
| Blackwell | 13 | 34,359 | Fort Cobb | 3 | 7,929 | Maui | 4 | 10,572 | Skiatook | 1 | 2,643 |
| Blanchard | 2 | 5,286 | Fort Gibson | 4 | 10,572 | Maysville | 4 | 10,572 | Snyder | 1 | 2,643 |
| Boise City | 8 | 21,144 | Fort Supply | 6 | 15,858 | McAlester | 99 | 261,654 | Stigler | 36 | 95,147 |
| Bristow | 4 | 10,572 | Francis | 1 | 2,643 | McLoud | 1 | 2,643 | Stillwater | 25 | 66,074 |
| Broken Arrow | 4 | 10,572 | Frederick | 22 | 58,145 | Medford | 2 | 5,286 | Stilwell | 27 | 71,360 |
| Broken Bow | 8 | 21,144 | Garber | 1 | 2,643 | Miami | 49 | 129,506 | Stonewall | 2 | 5,286 |
| Buffalo | 5 | 13,215 | Geary | 1 | 2,643 | Midwest City | 22 | 58,145 | Stroud | 7 | 18,501 |
| Burns Flat | 3 | 7,929 | Gene Autry | 1 | 2,643 | Milburn | 2 | 5,286 | Sulphur | 8 | 21,144 |
| Caddo | 1 | 2,643 | Glenpool | 1 | 2,643 | Moore | 4 | 10,572 | Tahlequah | 74 | 195,580 |
| Canadian | 1 | 2,643 | Gore | 6 | 15,858 | Mooreland | 3 | 7,929 | Talihina | 18 | 47,573 |
| Carmen | 1 | 2,643 | Gowen | 1 | 2,643 | Morrison | 2 | 5,286 | Tecumseh | 3 | 7,929 |
| Carnegie | 7 | 18,501 | Grandfield | 2 | 5,286 | Mountain View | 1 | 2,643 | Temple | 4 | 10,572 |
| Catoosa | 2 | 5,286 | Granite | 1 | 2,643 | Muldrow | 1 | 2,643 | Thomas | 7 | 18,501 |
| Chandler | 6 | 15,858 | Grove | 39 | 103,076 | Muse | 1 | 2,643 | Tishomingo | 5 | 13,215 |
| Chattanooga | 1 | 2,643 | Guinn | 1 | 2,643 | Muskogee | 60 | 158,578 | Tonkawa | 5 | 13,215 |
| Checotah | 3 | 7,929 | Guthrie | 22 | 58,145 | Mustang | 1 | 2,643 | Tulsa | 233 | 615,812 |
| Cherokee | 12 | 31,716 | Guymon | 9 | 23,787 | N/A | 9 | 23,787 | Valliant | 2 | 5,286 |
| Cheyenne | 9 | 23,787 | Haileyville | 1 | 2,643 | Newalla | 1 | 2,643 | Verden | 1 | 2,643 |
| Chickasha | 48 | 126,863 | Harrar | 3 | 7,929 | Newkirk | 1 | 2,643 | Vian | 4 | 10,572 |
| Choctaw | 1 | 2,643 | Hartshorne | 4 | 10,572 | Noble | 3 | 7,929 | Vici | 7 | 18,501 |
| Chouteau | 1 | 2,643 | Haworth | 1 | 2,643 | Norman | 59 | 155,935 | Vinita | 37 | 97,790 |
| Claremore | 37 | 97,790 | Haywood | 1 | 2,643 | Nowata | 6 | 15,858 | Wagoner | 4 | 10,572 |
| Clayton | 2 | 5,286 | Healdton | 3 | 7,929 | Oakwood | 1 | 2,643 | Wakita | 3 | 7,929 |
| Cleveland | 13 | 34,359 | Heavener | 1 | 2,643 | Ochelata | 2 | 5,286 | Warner | 3 | 7,929 |
| Clinton | 47 | 124,220 | Helena | 1 | 2,643 | Okarche | 4 | 10,572 | Watonga | 5 | 13,215 |
| Coalgate | 16 | 42,288 | Hennepin | 1 | 2,643 | Okeene | 5 | 13,215 | Watts | 1 | 2,643 |
| Colbert | 2 | 5,286 | Hennessey | 3 | 7,929 | Okemah | 3 | 7,929 | Waurika | 6 | 15,858 |
| Colcord | 3 | 7,929 | Henryetta | 14 | 37,002 | OK City | 448 | 1,184,051 | Waynoka | 2 | 5,286 |
| Collinsville | 1 | 2,643 | Hinton | 3 | 7,929 | Okmulgee | 6 | 15,858 | Weatherford | 20 | 52,859 |
| Comanche | 9 | 23,787 | Hobart | 25 | 66,074 | Owasso | 4 | 10,572 | Welch | 1 | 2,643 |
| Commerce | 2 | 5,286 | Holdenville | 7 | 18,501 | Parkhill | 1 | 2,643 | Weleetka | 11 | 29,073 |
| Copan | 1 | 2,643 | Hollis | 16 | 42,288 | Pauls Valley | 23 | 60,788 | W. Siloam Spgs | 2 | 5,286 |
| Cordell | 10 | 26,430 | Hugo | 3 | 7,929 | Pawhuska | 7 | 18,501 | Westville | 2 | 5,286 |
| Corn | 4 | 10,572 | Hulbert | 2 | 5,286 | Pawnee | 3 | 7,929 | Wetumka | 7 | 18,501 |
| Covington | 1 | 2,643 | Hydro | 11 | 29,073 | Perry | 17 | 44,930 | Wewoka | 4 | 10,572 |
| Coweta | 1 | 2,643 | Idabel | 9 | 23,787 | Picher | 1 | 2,643 | Wilburton | 16 | 42,288 |
| Crescent | 2 | 5,286 | Inola | 4 | 10,572 | Pittsburg | 1 | 2,643 | Wister | 1 | 2,643 |
| Cromwell | 1 | 2,643 | Jay | 5 | 13,215 | Pocola | 2 | 5,286 | Woodward | 31 | 81,932 |
| Cushing | 30 | 79,289 | Kansas | 2 | 5,286 | Ponca City | 26 | 68,717 | Wynnewood | 3 | 7,929 |
| Cyril | 1 | 2,643 | Kaw City | 1 | 2,643 | Porum | 1 | 2,643 | Yale | 1 | 2,643 |
| Davis | 1 | 2,643 | Kingfisher | 16 | 42,288 | Poteau | 16 | 42,288 | Yukon | 6 | 15,858 |
| Delaware | 1 | 2,643 | Kiowa | 1 | 2,643 | Prague | 2 | 5,286 | TOTALS | 3,065 | \$8,100,703 |
| Dewey | 1 | 2,643 | Konawa | 5 | 13,215 | Pryor | 5 | 13,215 | | | |
| Disney | 1 | 2,643 | Krebs | 1 | 2,643 | Purcell | 10 | 26,430 | | | |

NOTE: NURSING SCHOLARSHIP FUNDS ARE BOTH STATE AND PRIVATE SPONSOR MATCHING MONIES. \$2,643 IS THE AVERAGE DOLLAR AMOUNT A NURSE RECEIVES FROM THE PMTC. DIVIDE TOTAL EXPENDITURES OF \$8,100,710 BY 3,065 TOTAL RECIPIENTS.

APPENDIX 15

SURVEY INSTRUMENT AND RESPONSES

CURRENT STATUS (MARK ONE)

- 20 MEDICAL STUDENT (DO NOT ANSWER #4 - 6)
- 28 FAMILY MEDICINE RESIDENT (DO NOT ANSWER #4 - 6)
- 55 CURRENTLY FULFILLING PRACTICE OBLIGATION
- 108 REMAINED IN COMMUNITY AFTER OBLIGATION WAS COMPLETED
- 49 RELOCATED AFTER OBLIGATION WAS COMPLETED

PMTC ASSISTANCE (MARK ONE)

- 144 MEDICAL SCHOOL LOAN (RURAL MEDICAL EDUCATION SCHOLARSHIP LOAN PROGRAM)
- 34 RESIDENCY LOAN (FP/GP RESIDENT RURAL SCHOLARSHIP LOAN PROGRAM)
- 68 COMMUNITY MATCHING LOAN (PHYSICIAN COMMUNITY MATCH PROGRAM)
- 14 OTHER (COMMUNITY PHYSICIAN EDUCATION SCHOLARSHIP PROGRAM: (1976-1988 ONLY))

1. HOW MUCH DID THE PMTC ASSISTANCE INFLUENCE YOUR CHOICE TO PURSUE RURAL PRACTICE IN OKLAHOMA? (CIRCLE ONE NUMBER)

| | | | | | | | | | | | | |
|--------------------|-----|------|------|------|------|-------------------------|------|------|------|------|--|--------------------------|
| NOT INFLUENTIAL | | | | | | SOMEWHAT INFLUENTIAL | | | | | | EXTREMELY INFLUENTIAL |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| (25) | (6) | (10) | (20) | (11) | (51) | (18) | (30) | (37) | (20) | (31) | | |

2. IF YOU DID NOT RECEIVE PMTC ASSISTANCE ... HOW LIKELY IS IT THAT YOU STILL WOULD HAVE PURSUED A RURAL PRACTICE IN OKLAHOMA? (CIRCLE ONE NUMBER)

| | | | | | | | | | | | | |
|---------------------------|-----|------|------|------|------|---------------------|------|------|------|------|--|-----------------------------|
| WOULD NOT HAVE PURSUED | | | | | | MAY HAVE PURSUED | | | | | | WOULD STILL HAVE PURSUED |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| (7) | (6) | (14) | (24) | (14) | (55) | (24) | (22) | (38) | (19) | (25) | | |

3. HOW COULD PMTC SERVE OKLAHOMA MORE EFFECTIVELY? (CHECK ANY THAT APPLY)

- 28 MAKE NO CHANGES
- 114 INCREASE THE LOAN AMOUNTS
- 34 PROVIDE MORE PERSONAL CONTACT WITH LOAN RECIPIENTS
- 63 EXPAND PROGRAMS TO OTHER SPECIALTIES
- 31 EXPAND PROGRAMS TO OTHER HEALTH PROFESSIONS
- 62 MORE EFFECTIVE MARKETING OF PROGRAMS & SERVICES
- 125 MORE EFFECTIVE MARKETING OF RURAL OPPORTUNITIES
- 99 GREATER CONTACT WITH ELIGIBLE COMMUNITIES IN OKLAHOMA
- 6 OTHER _____

4. WOULD EFFECTIVE AND ADVANCED TELECOMMUNICATIONS (TELEMEDICINE - TELEHEALTH - TELERADIOLOGY) APPLICATIONS ENHANCE MEDICAL CARE AND THE RETENTION OF PHYSICIANS IN SMALLER COMMUNITIES? (CIRCLE ONE)

| | | | | | | |
|----------------------|------|------|------|------|------|--------------------------|
| WOULD NOT ENHANCE | | | | | | WOULD GREATLY ENHANCE |
| 0 | 1 | 2 | 3 | 4 | 5 | |
| (13) | (13) | (19) | (54) | (64) | (54) | |

PRACTICING PHYSICIANS ONLY

5. OTHER THAN A CONTRACTUAL OBLIGATION, WHAT IS THE PRIMARY REASON YOU ARE PRACTICING WHERE YOU ARE? (SELECT ONLY ONE)

- 14 SPOUSAL CONSIDERATION
- 32 OTHER FAMILY CONSIDERATION
- 77 QUALITY OF LIFE
- 15 FINANCIAL OPPORTUNITY
- 41 MEDICAL PRACTICE OPPORTUNITY
- 19 CLINICAL ENVIRONMENT
- 5 OTHER _____

6. OTHER THAN A CONTRACTUAL OBLIGATION, WHAT IS THE NEXT MOST INFLUENTIAL REASON YOU ARE PRACTICING WHERE YOU ARE? (SELECT ONLY ONE)

- 16 SPOUSAL CONSIDERATION
- 21 OTHER FAMILY CONSIDERATION
- 56 QUALITY OF LIFE
- 23 FINANCIAL OPPORTUNITY
- 57 MEDICAL PRACTICE OPPORTUNITY
- 30 CLINICAL ENVIRONMENT
- 2 OTHER _____

7. HOW INFLUENTIAL WAS THE PMTC ASSISTANCE ... IN YOUR DECISION TO PRACTICE IN YOUR COMMUNITY? (CIRCLE ONE NUMBER)

| | | | | | | | | | | | | |
|--------------------|------|------|------|------|------|-------------------------|------|------|------|------|--|--------------------------|
| NOT INFLUENTIAL | | | | | | SOMEWHAT INFLUENTIAL | | | | | | EXTREMELY INFLUENTIAL |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| (29) | (10) | (14) | (12) | (13) | (35) | (20) | (34) | (23) | (12) | (21) | | |

APPENDIX 16

METHODOLOGY OF ESTIMATING ECONOMIC IMPACT

Introduction

This methodology estimates the economic impacts of physicians in non-metropolitan areas of Oklahoma.

The method will yield a few county and community outliers due to unusual circumstances in an area. Communities and counties with very small numbers of physicians may be impacted by a single physician moving in the study year.

Special situations include the presence of a large state mental hospital, Indian Health Service facilities or county border anomalies. For example, Rogers County has a large Indian hospital with significant employment. This inflates a per physician impact. The same is true for Vinita and Craig county with Eastern State Hospital.

Outliers aside, the results look quite appropriate and uniform.

The Model

In order to estimate the economic impacts of physicians, reasonable assumptions are necessary. This section will provide the detailed descriptions of assumptions and calculations used to provide the estimates in the body of the report. The underlying economic model used for these economic assessments was created by the Oklahoma State University Cooperative Extension Service using the commercial IMPLAN database (see page 3).

Their model provides county specific economic data estimating direct and secondary employment (jobs) and associated income (payroll) generated by five sub-sectors of the health care economy (hospitals; clinicians; nursing homes and home health; pharmacies; and other).

Direct Jobs and Income

In order to calculate the income dollars generated, we have assumed that each physician will earn the median annual income for Family Medicine physicians (\$144,290);¹⁰ that each physician will employ 4.61 FTE staff;¹¹ and that each staff member will earn an average of \$24,204 per year (see below).¹² This average wage per staff member is derived from averaging the theoretical mix of an office staff and applying the Oklahoma average wage for that job.

| FTE | SIC Code | Job | Avg Annual Wage |
|------|----------|-------------------|-----------------|
| 1.00 | 66005 | Medical Assistant | \$18,533 |
| 1.00 | 32505 | LPN | \$23,712 |
| 1.50 | 55105 | Medical Secretary | \$19,843 |
| .61 | 32502 | RN | \$36,754 |
| .50 | 32902 | Technologist | \$34,299 |
| 4.61 | | Average | \$24,204 |

Besides being a direct employer, physicians are also responsible for economic activity generated by other health care sectors. The amount of influence physicians have upon those sectors is speculative. But we have made some conservative estimates. They vary for each sub-sector. For example ...

Hospitals: We estimate that physicians are 100% responsible for the economic activity generated by hospitals. It is inconceivable that a hospital within a county could function and maintain accreditation without the active involvement of licensed physicians in that county.

Nursing Homes: We estimate that physicians will be responsible for at least 50% of nursing home economic activity. It is possible that a nursing home could function with oversight and consultation from physicians outside the county. Therefore, the 50% estimate.

Pharmacies: We estimate that physicians are responsible for at least 50% of pharmacy economic activity. It is possible that a pharmacy could function in the absence of licensed physicians in the county. In this case, pharmacies could retail non-pharmacy items and fill prescriptions for patients written outside of the county.

Clinicians: This economic activity is already accounted for as direct payroll in the physician office and/or clinic. We assume that physicians have little impact on the employment in offices of other health care professionals.

Other: This area of economic activity includes employment and services not classified as hospitals, pharmacies and nursing homes. We assume that physicians have no impact on this sector.

In summary, the assumed impacts are:

| | |
|---------------|------|
| Hospitals | 100% |
| Pharmacies | 50% |
| Nursing Homes | 50% |
| Other | 0% |

Secondary Economic Impacts

In addition to the direct impacts, the spending of the direct income of the individuals creates additional jobs outside of the health care sector. These jobs may be school teachers, ministers or grocers. These are called indirect jobs. The spending of health care institutions, such as hospitals and nursing homes, will also create additional jobs outside of the health care sector. These are called induced jobs.

The total of the indirect and induced employment is the secondary jobs created. The total income from these jobs will create the secondary economic impact of a family physician upon an economy. The direct jobs and income are multiplied by a county-specific IMPLAN multiplier to yield the secondary impacts.

The worksheets calculating the various cost estimates are found in the following Appendices.

APPENDIX 17

**SAMPLE COUNTY ECONOMIC IMPACT CALCULATION FOR APPENDICES 19-20
ADA, OK (PONTOTOC COUNTY)**

The methodology will first compute the economic impact of an individual physician in each county in Oklahoma. The per physician figure is then multiplied by the number of PMTC assisted physicians in a community.

Refer to Appendix 19, Calculation Worksheet: Estimated Economic Impacts of Physicians in Oklahoma by County. The computations and references are read left to right.

Health Care Sector

The first five columns depict the number of jobs in the Pontotoc County health care sector. The jobs associated with health professional practices are not included as they are calculated directly later in the methodology.

There are 1,218 hospital jobs, 294 in nursing care and protective services, 57 in pharmacies and 187 in other areas. This totals 1,756 health care sector jobs.

Per the assumptions listed at the end of this section, the number of direct jobs created by physicians is $(1,218*100\%) + (294*50\%) + (57*50\%) = 1,394$.

The secondary jobs created by these sectors are listed in the next five columns. They are $(804*100\%) + (182*50\%) + (33*50\%) = 510$.

The payroll income from the direct jobs is in the five columns called Health Care Sector Income. The direct jobs income created by physicians is $(\$29,931,960*100\%) + (\$5,017,700*50\%) + (\$962,000*50\%) = \$32,921,810$.

The payroll income from the secondary jobs is in the five columns called Related Secondary Income. The secondary jobs income created by physicians is $(\$14,068,021*100\%) + (\$4,616,284*50\%) + (\$923,520*50\%) = \$16,837,923$.

The three columns called Total Employment depict the total number of direct (1,394) and secondary (912) jobs created by physicians in Pontotoc County. The next three columns depict the Total Income of those jobs. They are direct (\$32,921,810) and secondary (\$16,837,923) for a total of \$49,759,734.

Physician Practice

Physicians also create jobs and income within their practice. The four columns headed Practice Employment depict the number of jobs and income related solely to that physician's office practice. If there are 73 licensed physicians in Pontotoc County, they will employ 4.61 staff each, plus themselves (see assumptions below). This is 410 people directly employed. Using the IMPLAN jobs multiplier for Pontotoc County, it is estimated that an additional 348 secondary jobs are created $(410*.85)$. The income associated by the direct jobs is \$18,678,542 and the income from secondary jobs is \$5,977,133 $(\$18,678,542*.32)$.

The three columns headed Jobs Per Physician and Income Per Physician are calculated by dividing total data by the number of physicians. This yields 42 jobs per physician (25 direct and 17 secondary) with income per physician of \$1,193,381 (\$706,854 direct and \$486,527 secondary).

This data is per physician by county. These data are then transferred to the model depicted at Appendix 20, Oklahoma Communities: Estimated Economic Impacts of Oklahoma PMTC Assisted Physicians.

The direct and secondary jobs and income for Pontotoc County are inserted in the columns headed Per Physician Impacts. These columns are then multiplied by the number of PMTC-assisted physicians and their cumulative years of service found in the columns headed PMTC Physicians: Community Data.

The finding is that the six PMTC assisted physicians in Ada are responsible for an estimated 252 jobs annually with an associated income of over \$7 million (\$7,160,286).

Assumptions

| | |
|-------------------------|-----------|
| Physician income | \$144,290 |
| FTE staff per physician | 4.61 |
| Annual income per staff | \$24,204 |
| Physician impact upon: | |
| Hospitals | 100% |
| Pharmacies | 50% |
| Nursing Homes | 50% |

Note: All dollars are in 1998 dollars. It is recognized that it may be appropriate to discount dollars over time, but for purposes of this report, the use of current dollars can suffice.

APPENDIX 18

**SAMPLE INTERPRETATION OF DATA FOR APPENDIX 20
ESTIMATED ECONOMIC IMPACTS OF OKLAHOMA PMTC ASSISTED PHYSICIANS**

Ada, Oklahoma

Ada is a community in Pontotoc county with a population of 15,270 people. Ada is currently being served by six physicians who are recipients of PMTC scholarship assistance. These physicians have provided 51 years of cumulative service to Ada.

The practices of each of these physicians directly generates 148 jobs annually. These jobs are both in their practices and within other segments the health care sector. These jobs have an associated income of over \$4 million (\$4,241,125). The income from the direct jobs created additionally creates 104 secondary jobs with an income of almost \$3 million (\$2,919,162). These secondary jobs are created by the spending of health care institutions and the direct employment described above.

The annual economic impact upon the Ada area is the generation of an estimated 252 jobs with an associated income of \$7,160,286 ... or \$7.2 million. The 51 years of service to the area has directly created a cumulative \$61.2 million of local income due to the created employment.

Stigler, Oklahoma

Stigler is a community in Haskell county with a population of 2,470 people. Stigler is currently being served by two physicians who are recipients of PMTC scholarship assistance. These physicians have provided 17 years of cumulative service to Stigler.

The practices of each of these physicians directly generates 34 jobs annually. These jobs are both in their practices and within other segments the health care sector. These jobs have an associated income of \$696,087. The income from the direct jobs created additionally creates 19 secondary jobs with an income of \$466,928. These secondary jobs are created by the spending of health care institutions and the direct employment described above.

The annual economic impact upon the Stigler area is the generation of an estimated 107 jobs with an associated income of \$2,326,029 ... or \$2.3 million. The 17 years of service to the area has directly created a cumulative \$20 million of local income due to the created employment.

APPENDIX 19

**CALCULATION WORKSHEET: COUNTIES IN OKLAHOMA
ESTIMATED ECONOMIC IMPACTS OF PHYSICIANS IN OKLAHOMA, BY COUNTY**

APPENDIX 19 (CONT)

**CALCULATION WORKSHEET: COUNTIES IN OKLAHOMA
ESTIMATED ECONOMIC IMPACTS OF PHYSICIANS IN OKLAHOMA, BY COUNTY**

APPENDIX 19 (CONT)

**CALCULATION WORKSHEET: COUNTIES IN OKLAHOMA
ESTIMATED ECONOMIC IMPACTS OF PHYSICIANS IN OKLAHOMA, BY COUNTY**

APPENDIX 19 (CONT)

**CALCULATION WORKSHEET: COUNTIES IN OKLAHOMA
ESTIMATED ECONOMIC IMPACTS OF PHYSICIANS IN OKLAHOMA, BY COUNTY**

APPENDIX 20
OKLAHOMA COMMUNITIES
ESTIMATED ECONOMIC IMPACTS OF OKLAHOMA PMTC ASSISTED PHYSICIANS

APPENDIX 20 (CONT)

OKLAHOMA COMMUNITIES
ESTIMATED ECONOMIC IMPACTS OF OKLAHOMA PMTC ASSISTED PHYSICIANS

APPENDIX 20 (CONT)

OKLAHOMA COMMUNITIES
ESTIMATED ECONOMIC IMPACTS OF OKLAHOMA PMTC ASSISTED PHYSICIANS

END NOTES

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3 - IBID

4 - IBID

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12 - DATA SOURCE: MEDICAL GROUP MANAGEMENT ASSOCIATION COST SURVEY: 1999 REPORT BASED ON 1998 DATA AND OKLAHOMA OCCUPATIONAL WAGE INFORMATION 2000, OKLAHOMA EMPLOYMENT SECURITY COMMISSION ([WWW.OESC.STATE.OK.US/LMI/OKOccWage/default.htm](http://www.oesc.state.ok.us/LMI/OKOccWage/default.htm)).

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