Policy Brief

Wyoming Primary Care Gaps and Policy Options

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by

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WWAMI CENTER FOR HEALTH WORKFORCE STUDIES

ABOUT THE WORKFORCE CENTER

The WWAMI Center for Health Workforce Studies is located at the University of Washington Department of Family Medicine. The major goals of the Center are to conduct high-quality health workforce research; provide methodological expertise to local, state, regional, and national policy makers; build an accessible knowledge base on workforce methodology, issues, and findings; and provide wide dissemination of project results in easily understood and practical form to facilitate appropriate state and federal workforce policies.

The Center brings together researchers from medicine, nursing, dentistry, public health, the allied health professions, pharmacy, and social work to perform applied research on the distribution, supply, and requirements of health care providers, with emphasis on state workforce issues in underserved rural and urban areas of the WWAMI region. Workforce issues related to provider and patient diversity, provider clinical care and competence, and the cost and effectiveness of practice in the rapidly changing managed care environment are emphasized.

The WWAMI Center for Health Workforce Studies and Rural Health Research Center Final Report Series is a means of distributing prepublication articles and other working papers to colleagues in the field. Your comments on these papers are welcome and should be addressed directly to the authors. Questions about the WWAMI Center for Health Workforce Studies should be addressed to:

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EXECUTIVE SUMMARY

Nationally, primary care is in crisis and the situation is particularly pressing in rural locations. This is occurring in spite of growing evidence that increasing the amount of primary care delivered to a population (in relation to specialty care) improves health outcomes and lowers health care costs. This report provides an overview of primary care providers (physicians, physician assistants, and nurse practitioners) within Wyoming, a rural frontier state, and provides examples and policy options that could be employed to bolster the primary care workforce in the state. The information is intended to provide Wyoming policymakers with greater understanding of their state's primary care workforce and tools to improve Wyoming residents' access to the primary care workforce.

WYOMING'S PRIMARY CARE WORKFORCE

The Center for Health Workforce Studies at the University of Washington analyzed data from the Wyoming Healthcare Commission's 2006-2007 surveys of the state's health care and providers. The key findings were:

Primary care supply is low in many counties.

- More than two-thirds of Wyoming's counties (15 out of 23) have fewer primary care providers than the national average. Twenty out of 23 Wyoming counties (87%) have fewer than the national average of primary care physicians per 100,000 population.
- Nine counties (Campbell, Carbon, Goshen, Lincoln, Platte, Sweetwater, Uinta, Washakie, and Weston) appear to have major primary care provider shortages, with fewer than 75% of the national average of 126 providers per 100,000 population.

Primary care provider supply may decline in the next few years.

- Within the next ten years both the physician and nurse practitioner supplies appear likely to decrease significantly because of age-related retirement.

Non-physician clinicians make substantial contributions to primary care supply.

- Non-physician clinicians (physician assistants and nurse practitioners) make up more than a third of the primary care providers in Wyoming.
- Wyoming's primary care workforce contains a higher proportion of physician assistants than the national average.

Some primary care physicians noted challenges in making referrals and meeting malpractice insurance costs.

- More than a third of the primary care physicians report not having sufficient access to ancillary and specialty services
- Thirteen percent have stopped providing some services due to high malpractice insurance premiums.

Many primary care providers come from Wyoming or other rural areas.

- A majority of primary care providers in Wyoming grew up in a rural area; a quarter to a third lived in Wyoming as a child; and a comparable portion obtained their initial post-high school education within the state.

Many primary care providers received their clinical educations in-state or from nearby states.

- Forty-six percent of Wyoming's primary care nurse practitioners obtained their clinical education in

Wyoming, and the leading states for primary care physician and physician assistant education are the nearby states of Nebraska, Utah, North Dakota, and Washington.
- One-fifth of Wyoming's primary care physicians completed residencies in the state.

Federal and state education assistance programs have been used by primary care providers.
- The Wyoming State Contract Medical Education program (no longer active) contributed to the training of more than a fifth of the current primary care physician workforce.
- Other loan, scholarship and traineeship programs have been used by primary care providers, at varying rates.

The 2006-2007 data collection effort provided much valuable information for assessing the primary care workforce.
- Improved and ongoing workforce data collection and analyses will further identify factors associated with recruitment and retention of primary care providers, and track workforce trends over time.

OTHER STATES' RESPONSES TO PRIMARY CARE NEEDS

Several states have enacted legislation, or recommended policy, to respond to the primary care workforce needs of their states. A Minnesota report recommends increasing enrollment in that state's medical school, targeting students who are likely to practice primary care in rural areas of the state; increasing rural training opportunities; increasing family medicine residency capacity in the state; expanding loan forgiveness programs for physicians who practice rural primary care; and encouraging innovative partnerships among regional health care organizations and the academic health center to promote rural primary care practice.

A North Dakota report, focusing on the entire health care workforce, recommends increasing K-12 and higher education students' exposure to health care professions; promoting rural interdisciplinary health care education programs; seeking state support for recruitment strategies (such as tax incentives, loan repayment and scholarships) to attract health care professionals and educators to rural locations; and fostering methods to create innovative work environments that will help attract and retain providers (such as improving benefits packages, making flexible work schedules, enhancing spouse employment opportunities, promoting clinical faculty and other professional enhancement opportunities).

In Massachusetts, a recently passed "primary care workforce" law includes a medical home demonstration project; formation of a Health Care Workforce Center to help address workforce shortages; a loan forgiveness program for physicians and nurses who practice primary care in medically underserved areas; an affordable housing pilot program for health care providers who practice in underserved areas; increases in tuition incentives for University of Massachusetts medical students who agree to practice primary care in the state for 4 years; and direction to the State Payment Policy Advisory Board to explore methods to improve payment for providers of primary care.

POLICY OPTIONS

Based on the survey findings described in this report, and other states' recommended approaches, the following options are offered for consideration by Wyoming policymakers to help ensure an adequate supply of future primary care providers in Wyoming:

1. Increase the overall number of Wyoming students in the health sciences (the group most likely to select practice in their home state) by expanding college program capacity, Wyoming's participation in the WWAMI medical school program, and implementing programs that emphasize K-12 math and sciences skill-building and exposure to health science careers.
2. Increase the number of health sciences students from rural Wyoming as this group is the most likely to practice in rural locations.
3. Expand opportunities for primary care and, in particular, rural experiences during health professions education.
4. Expand the number of family medicine residency slots in Wyoming and create incentives for medical school graduates from WWAMI and other neighboring states to apply to them.
5. Expand funding for loan forgiveness and physician recruitment for primary care and rural practice through the Wyoming Healthcare Professional Loan Repayment Program and the Wyoming Physician Recruitment Grant Program.
6. Work with federal, state, and private policymakers to improve the reimbursement of primary care services through Medicaid, Medicare, and private insurance.
7. Develop strategic regional partnerships with health care systems, health plans and communities to address both the recruitment AND retention needs of Wyoming's primary care workforce.

The options presented above are not all-inclusive, but could serve as a starting point for state-level discussion on this pressing issue. In addition, ongoing and systematic workforce data collection and analysis would allow stakeholders and policy makers to better understand the short- and long-term factors related to ensuring health care providers enter and stay in primary care practice in Wyoming, and help to determine areas of the state in greatest need for state assistance, such as through loan repayment and physician recruitment programs.

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INTRODUCTION

> "…we know from various types of evidence that the more and the better primary care you have, the better are the health indicators in the area or in the country. In this country, states with higher primary-care-physician-to-population ratios have overall better health, however you measure the health. And the impact on costs is equally striking. The more primary care we give relative to specialty care, the lower the costs."
>
> Barbara Starfield, MD, Professor of Health Policy and Management, Johns Hopkins University[1]

Nationally, primary care is in crisis and the situation is particularly urgent in rural areas. Policy makers seeking to strengthen the primary care workforce need accurate information underpinning their efforts. This report provides an overview of primary care providers within Wyoming, and provides examples and policy options that could be employed to bolster the primary care workforce in the state. Primary care providers comprise the majority of the rural health care workforce. Access to primary care providers, however, is becoming increasingly difficult for Americans, and Wyoming is not immune to this problem. In Wyoming, a rural frontier state, 19 out of 23 counties are federally designated as having shortages of primary care providers.[2] A recent report commissioned by the Wyoming Healthcare Commission found concern among stakeholders that the availability of healthcare providers is decreasing, while the state's population continued to grow.[3] Retirement of primary care providers is a significant source of this decrease, and it is expected to increase because nearly half (49%) of Wyoming's physicians and 52% of its advanced nurse practitioners are age 51 or older.[4]

While the total number of primary care providers in the United States, including the number per population, has increased in the past decades, the number of primary care physicians per population in rural areas continues to lag behind urban areas. The number of U.S. health care students who choose primary care for their professional focus has declined, partially due to higher compensation for specialty care. This compensation imbalance occurs despite growing evidence that primary care services such as preventive care, coordination of care for the chronically ill, and medical care continuity can improve health outcomes and contain costs.[5]

Professional isolation, limited support for vacation and time off, and difficulty finding professional activities for spouses complicates the recruitment and retention of rural primary care providers. Comparatively low compensation and rising costs, including liability insurance, discourage health care providers from choosing primary care careers, which further reduces the pool of potential providers who might practice in rural areas.

The Institute of Medicine in 1996 described primary care as "… the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community."[6] Primary medical care is usually delivered by physicians, physician assistants and nurse practitioners with training in family medicine, internal medicine, preventive medicine and general pediatrics.

"At the heart of the decline in primary care lie dysfunctional payment systems, from the "gatekeeper" schemes of the 1990s to the current volume-driven, fee-for-service approaches… leaving patients unhappy, physicians demoralized, a generation of U.S. medical students shunning careers in the field, and access to care increasingly problematic—all contributing to an impending national health care crisis."

Allan H. Goroll, MD, Professor of Medicine, Harvard Medical School and Massachusetts General Hospital, and chair of the Massachusetts Coalition for Primary Care Reform[7]

The goal of this report is to provide information that will provide Wyoming policymakers with greater understanding of their state's primary care workforce and tools to improve Wyoming residents' access to this workforce. Specifically, this Policy Brief examines Wyoming's primary care workforce in order to:

- Assess the number and distribution of primary care providers within the state,
- Examine some of the factors that may help retain these providers and attract new ones to the state, and
- Provide options for policies that could be employed to help ensure an adequate future supply of primary care providers in Wyoming.

WYOMING'S CURRENT SUPPLY OF PRIMARY CARE PROVIDERS

The following statistics were generated by the Center for Health Workforce Studies at the University of Washington through analyses of the Wyoming Healthcare Commission's 2006-2007 surveys of health care providers and facilities in the state. These surveys were carried out by the Health Professions Tracking Center at the University of Nebraska Medical Center.

WHO ARE WYOMING'S PRIMARY CARE PROVIDERS?

The definition of "primary care" varies across the many settings in which it is applied. For purposes of this report, the following self-reported specialties of Wyoming providers were included in the definition of primary care.

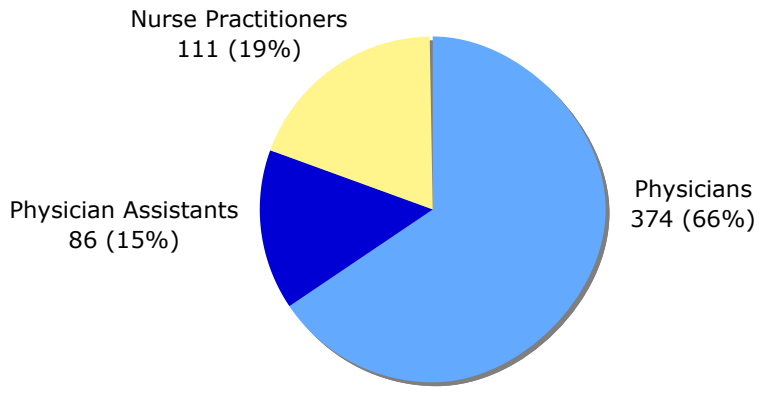
- Physicians (in family medicine, general practice, internal medicine, and pediatrics specialties).
- Physician assistants (in family medicine, internal medicine and pediatrics specialties).
- Nurse practitioners (adult, family, geriatrics, pediatrics, and women's health care specialties).

HOW MANY PRIMARY CARE PROVIDERS ARE IN WYOMING?

Most of the primary care providers in Wyoming are physicians (65%), with nurse practitioners and physician assistants comprising 19% and 15% of the workforce, respectively (see Figure 1). These three provider types are not entirely interchangeable: physicians have the most extensive training and the largest scope of practice. Nurse practitioners and physician assistants (often called non-physician clinicians) have shorter and less costly training requirements, and have more restricted scopes of practice compared with physicians. In addition to variation in scope of practice and therefore the services each provider type can deliver to a community, an assessment of the size of the workforce should take into account whether or not the provider works full-time or part-time in direct patient care.

Primary care physicians are the most prevalent primary care providers, with physician assistants and nurse practitioners, together, making up roughly one-third of the primary care providers in Wyoming. A similar survey in Washington state found that physician assistants and nurse practitioners made up nearly a quarter of the generalist (primary care) providers in the state, and performed about 21% of the generalist outpatient visits in the state, with even higher contributions (25%) in rural areas of the state.[8] At present, the data to determine the number of services

Figure 1: Primary Care Providers in Wyoming



provided by non-physician providers in Wyoming are not available, but could be collected in future surveys of the workforce. Based on numbers of providers, it can be assumed that physician assistants and nurse practitioners are providing a significant portion of primary care services in Wyoming.

The ratio of primary care providers to the state's population is useful for comparison to other states, regions or the national average (see Tables 1 and 2).

The numbers in Table 1 may somewhat *overstate* the number of primary care physicians in Wyoming because it includes physicians who identified their specialty as "internal medicine", which can include specialized internists who may not be providing primary care services. Future workforce surveys in the state will obtain more detailed information to allow more accurate counts of primary care providers.

While definitions of "primary care provider" may vary depending on the user and the quality of different data sources is variable, comparing Wyoming's primary care supply estimates with national averages provides some insights to Wyoming's relative workforce situation. The numbers in Table 2 come from a U.S. General Accounting Office report.[5]

A comparison of Tables 1 and 2 shows Wyoming as having fewer physicians, more physician assistants and somewhat fewer nurse practitioners providing primary care per capita than the national average. Across all three provider types, the statewide average for primary care providers in Wyoming is approximately 110 per 100,000 population compared with an estimated 126 per 100,000 population for the nation overall.

WHERE ARE PRIMARY CARE PROVIDERS IN WYOMING?

The distribution of primary care physicians, physician assistants and nurse practitioners further illustrates areas where access to primary care is problematic for Wyoming's citizens (Figure 2). Over two-thirds (65%) of Wyoming's counties (15 of the 23 counties) have fewer providers than the national average and 57% (13 of the 23 counties) have fewer than the statewide average.

The number of primary care physicians per 100,000 population is shown, by county, in Figure 3. Twenty out of 23 counties (87%) in the state have fewer than the national average of 90 primary care physicians per 100,000 population. Eleven counties have fewer than the state average of 72 primary care physicians per 100,000 population.

Nine of Wyoming's 23 counties (39%) appear to have major primary care provider shortages compared with the national averages. Platte and Sweetwater counties have less than half the national average number of physicians per 100,000 population, and less than half the national average for total primary care providers per 100,000 population. Campbell, Weston, Washakie, Uinta, Lincoln, Goshen and Carbon counties all have between 50% and 75% of the national average of primary care providers per 100,000 population. While the supply of primary care physicians in most Wyoming counties is lower than the national average, non-physician providers substantially contribute to the primary care workforce. Three counties (Niobrara, Sheridan and Sublette) fall below the national average for primary care physicians per population (90 per 100,000), but have more providers per population than the national average when non-physician clinicians are included (126 per 100,000).

Table 1: Primary Care Providers per 100,000 Population in Wyoming

	Physicians	Physician Assistants	Nurse Practitioners	Total
Providers per 100,000 population	72	16	21	110

Table 2: Primary Care Providers per 100,000 Population in the United States

	Physicians (2005)	Physician Assistants (2007)	Nurse Practitioners (2005)	Total
Providers per 100,000 population	90	8	28	126

Data sources for Table 2: U.S. GAO analysis of data from HRSA's Area Resource File and organizations representing primary care professionals.[5]

Figure 2: Primary Care Providers per 100,000 Population, by County, and Distribution of Primary Care Providers (physicians, physician assistants, and nurse practitioners)

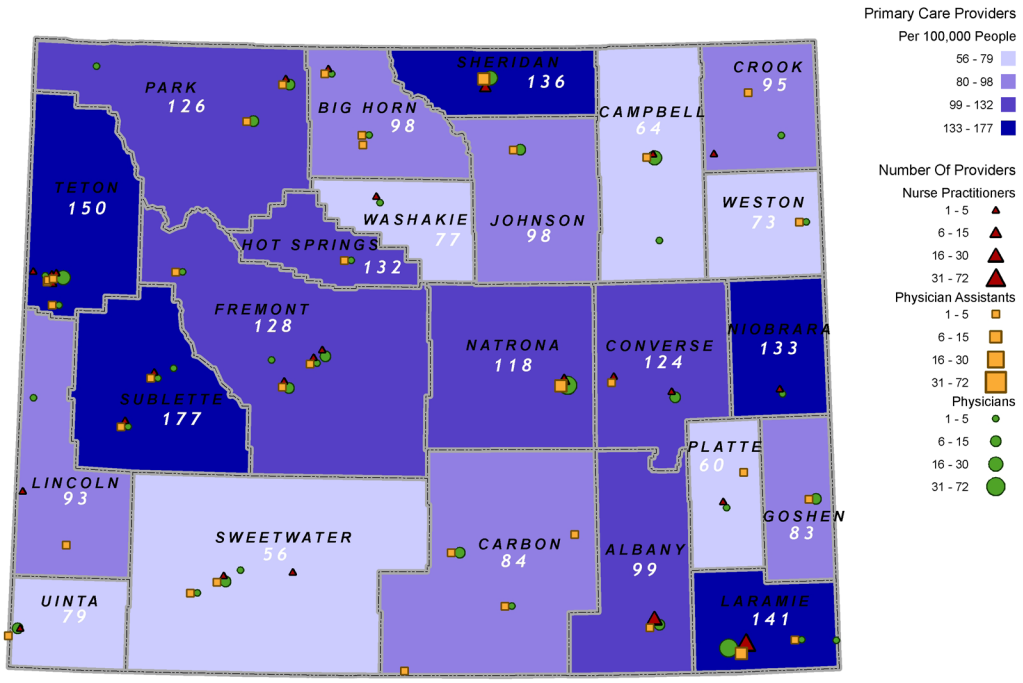
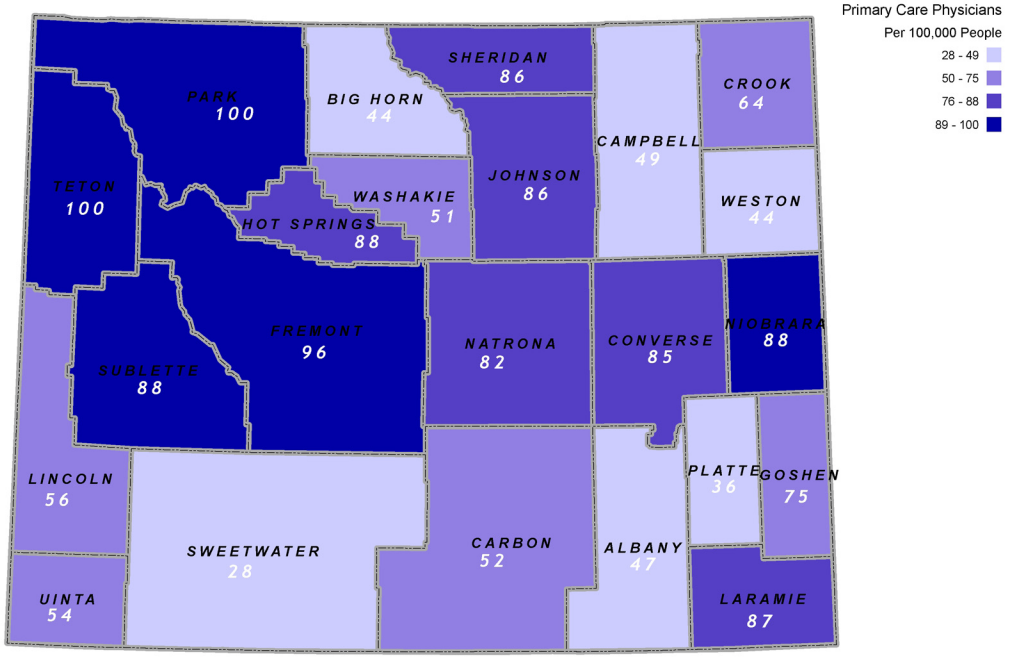


Figure 3: Primary Care Physicians per 100,000 Population, by County



PRIMARY CARE PROVIDER CHARACTERISTICS

The three primary care provider types (physicians, physician assistants and nurse practitioners) share some background and practice characteristics, and differ on others (see Table 3). Slightly more than half of nurse practitioners work full time, compared with more than 70% of physicians and physician assistants. A larger proportion of physician assistants (71%) work in rural counties than do physicians (65%) and nurse practitioners (56%). On average physicians have worked in Wyoming nearly 5 years longer than physician assistants, and only a year and a half longer than nurse practitioners, consistent with the older average age of both physicians and nurse practitioners.

Between 20%-25% of all three provider types work in more than one location. Most, but not all, primary care physicians have hospital privileges, and are on-call a median of 36 hours per week. A quarter of primary care physicians are on-call more than 61 hours per week. Physician assistants and nurse practitioners take call at much lower levels than physicians.

Fewer than one-third of primary care physicians in Wyoming are female, compared with more than 90% of nurse practitioners and half of physician assistants. More than one-fifth of physician assistants and nurse practitioners are non-white or are Hispanic, compared with 6% of physicians. More physicians, however, speak Spanish than do the other two primary care provider types.

THE FUTURE SUPPLY OF PRIMARY CARE PROVIDERS

The supply of health care providers increases by new graduates from professional education programs, in-migration, and the return of providers who have temporarily left practice. Factors that decrease provider supply are retirement, death, out-migration and other reasons providers discontinue practice. The largest reason for discontinuing practice is age-related retirement. As a result, health workforce planners pay close attention to the age of the workforce. A quarter or more of Wyoming's primary care physicians and nurse practitioners are currently older than age 55, indicating that they are likely to retire within 10 years (Figure 4). The primary care physician assistant workforce is younger: just 14% are age 56 or older.

Geographically, the aging of primary care workforce appears most significant in Teton, Sublette, Campbell, Natrona and Carbon counties (see Figures 5 and 6). In these five counties, more than 30% of the primary care workforce is older than 55 years.

PLANS TO RETIRE OR CHANGE PRACTICE

More than one-third of physicians indicated they intended to retire within 5 years in three rural counties: Campbell (38.5%), Sheridan (30.0%) and Teton (42.9%). Statewide, more than 15% of primary care physicians and 13% of nurse practitioners intend to retire from practice within 5 years (or by 2012). Less than 2% of physician assistants share those retirement plans (Figure 7). Estimates of years to retirement are less accurate the further away the survey respondent is from retiring, and retirement plans may change with fluctuations in the economy, but predictions for 5 years or fewer are likely to be reasonably reliable.

Table 3: Primary Care Provider Characteristics

	Physicians	Physician Assistants	Nurse Practitioners
Work full time	75.5%	70.9%	55.9%
In rural counties	64.7%	72.1%	55.9%
Average years in practice in Wyoming	13.2	8.8	11.6
Work in more than one location	18.6%	19.8%	24.3%
Have hospital privileges	86.8%	57.1%	43.0%
On-call hours per week: highest quartile	61+ hrs	16+ hrs	13+ hrs
Median weekly on-call hours	36	0	0
Female	30.6%	50.0%	91.9%
Speak Spanish	5.9%	1.2%	1.8%
Are Hispanic or non-white	5.9%	22.1%	20.7%

Figure 4: Primary Care Provider Age

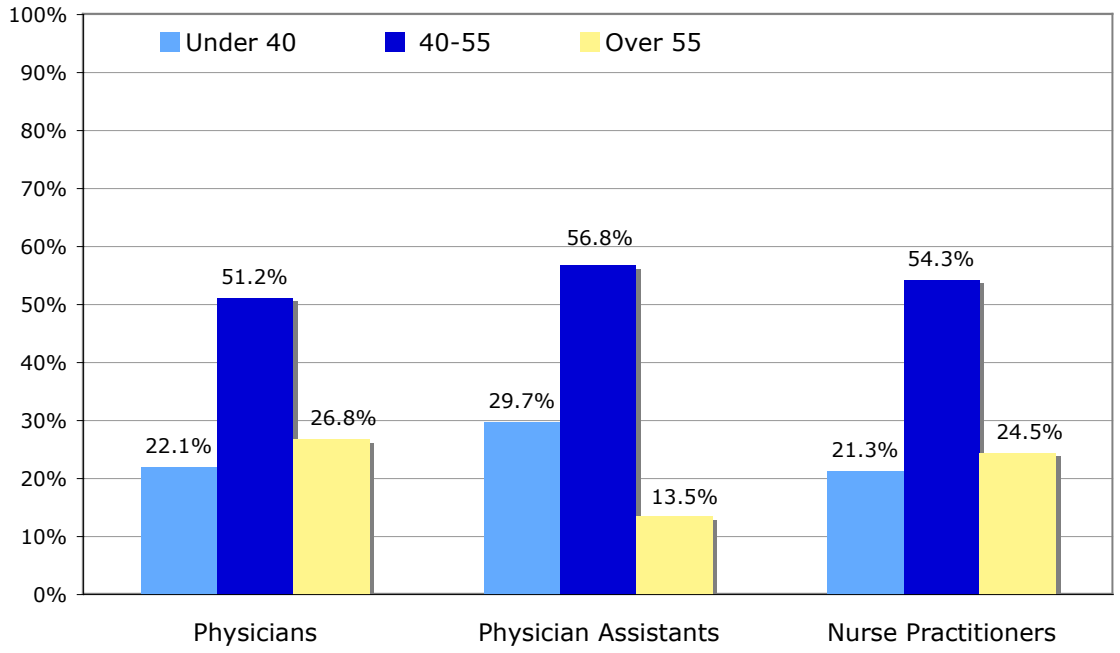


Figure 5: Percentage of Primary Care Providers (physicians, physician assistants, and nurse practitioners) Over Age 55, by County

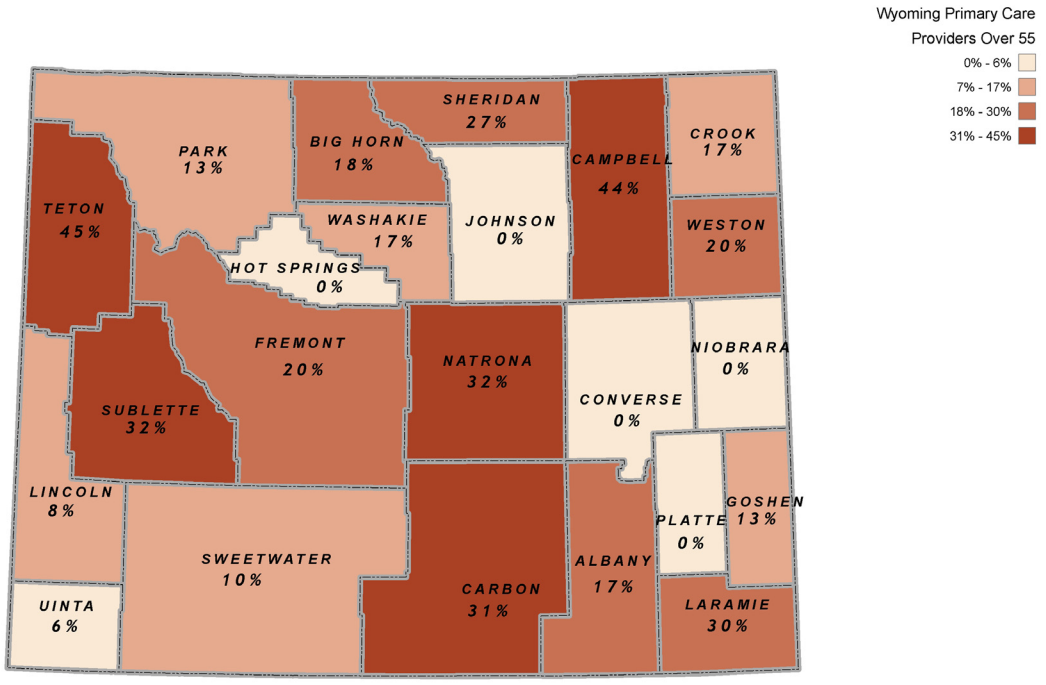


Figure 6: Percentage of Primary Care Physicians Over Age 55, by County

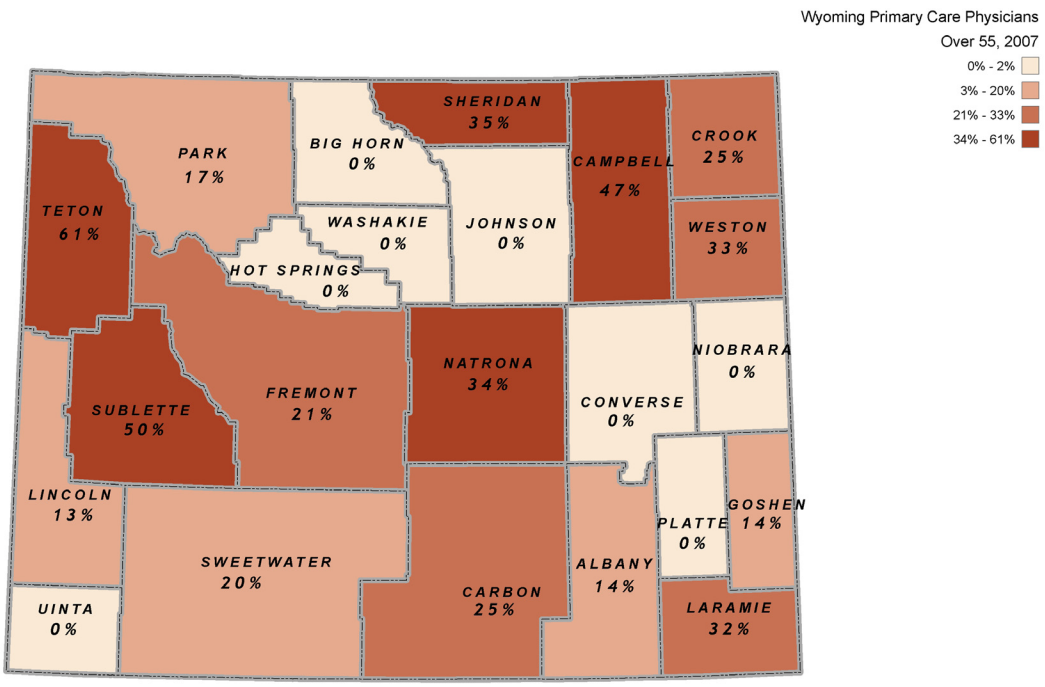
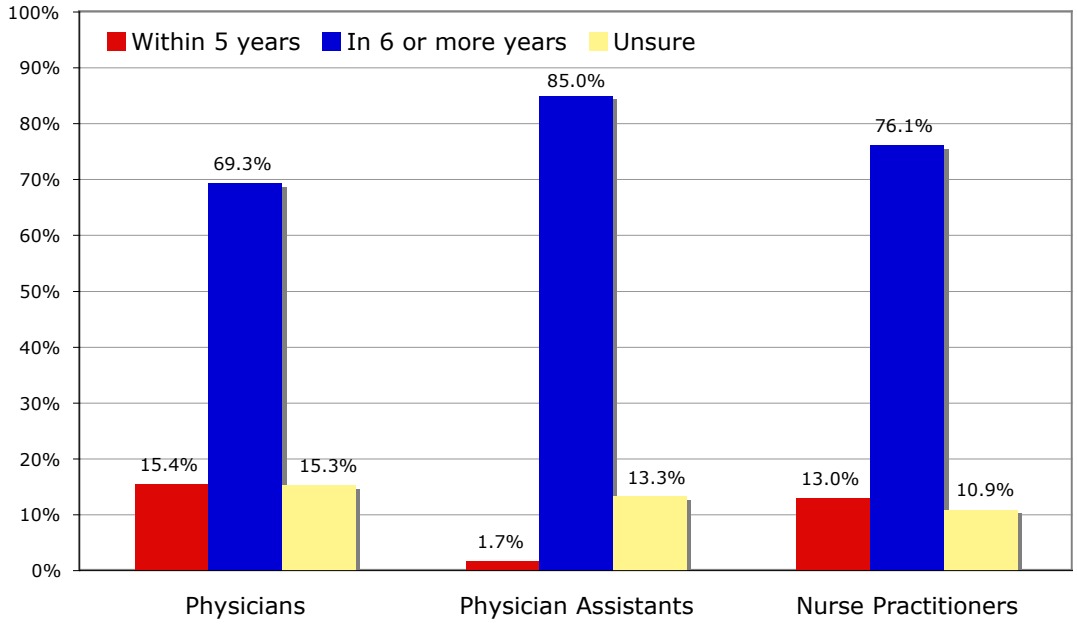


Figure 7: Primary Care Providers' Plans for Retirement



ISSUES LIKELY TO IMPACT PRIMARY CARE ACCESS

More physicians (13%) indicated that malpractice insurance premiums had caused them to stop providing some services than did physician assistants (3%) or nurse practitioners (3%) (see Table 4). This is probably because the costs of insurance coverage for some obstetrical services (that are usually not included in the non-physician clinicians' scope of practice) have increased dramatically in recent years.

Of the three primary care provider types, only physicians were asked if they had sufficient access to needed ancillary and specialty services. More than 35% reported they lacked sufficient services.

PROVIDERS' BACKGROUNDS, EDUCATION, AND SOURCES OF SUPPORT

There is evidence that physicians who come from rural areas are more likely to practice in rural areas.[9] In Wyoming, a majority of all primary care providers lived in rural areas in their childhoods (see Figure 8), including those working in rural counties.

WHERE THE STATE'S PRIMARY CARE PROVIDERS SPENT THEIR YOUTH

Between 27%-40% of Wyoming's primary care providers lived in Wyoming as a child, and providers who work in rural counties show slightly higher rates of this history (see Figure 9).

Twenty to 25% of the state's primary care physicians and physician assistants attended college in Wyoming, and more than 35% of nurse practitioners obtained their initial nursing education in the state (see Figure 10).

Table 4: Primary Care Providers: Issues Related to Access

	Physicians	Physician Assistants	Nurse Practitioners
Providers ceasing to offer specific services due to increased malpractice premiums	12.5%	2.9%	3.3%
Providers who reported not having sufficient access to ancillary and specialty services	35.6%	NA*	NA*

* Question not included on questionnaire.

Figure 8: Primary Care Providers Who Lived in a Rural Area as a Child

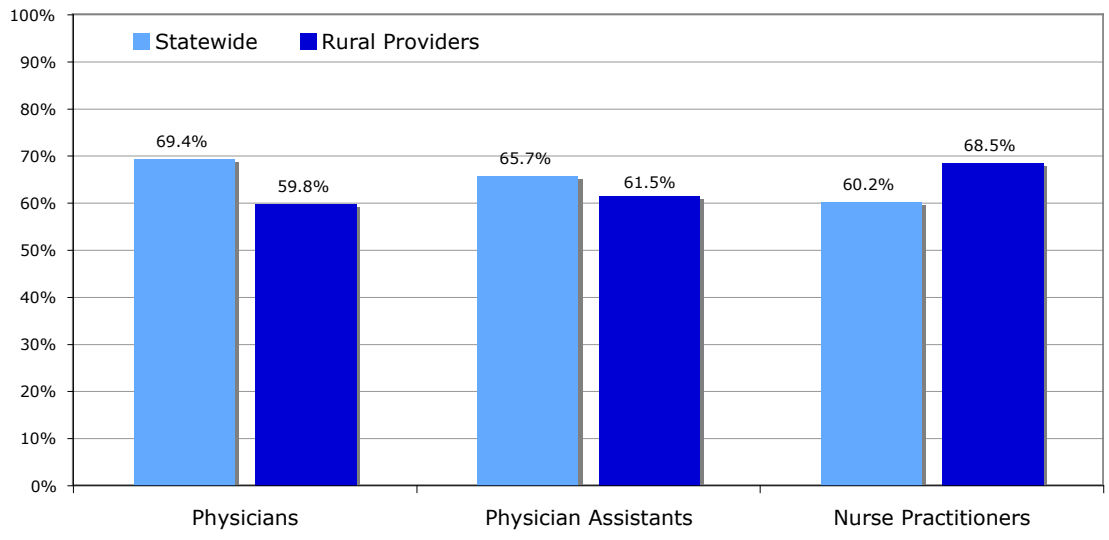


Figure 9: Primary Care Providers Who Lived in a Wyoming as a Child

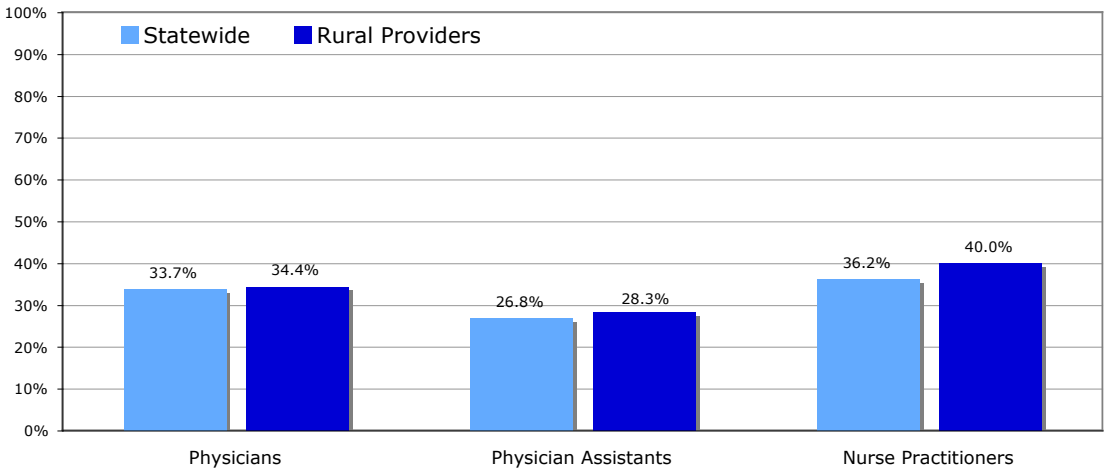
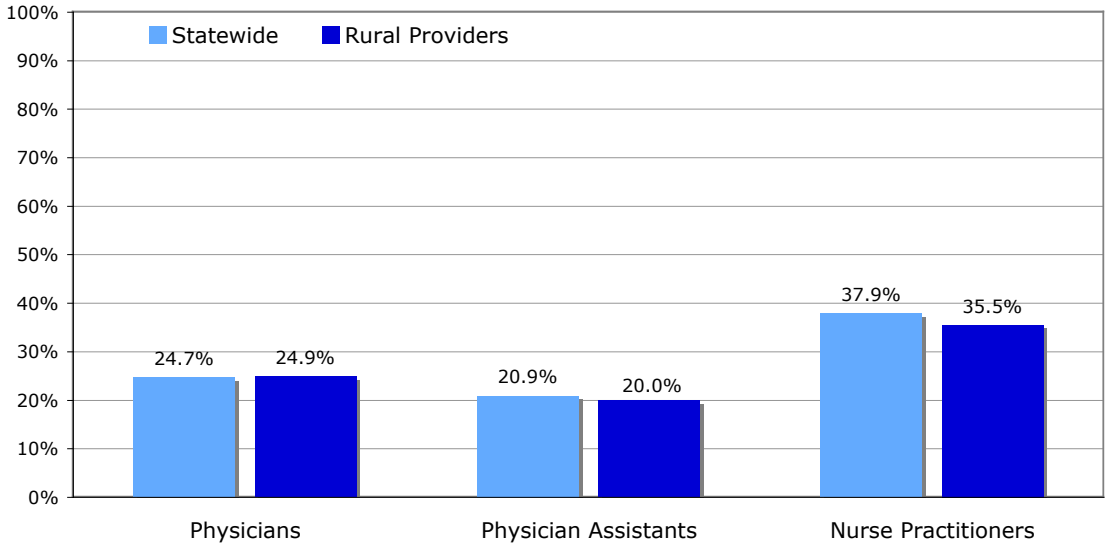


Figure 10: Primary Care Providers Who Attended College* in Wyoming



* For nurse practitioners this refers to location of initial nursing education.

STATE WHERE PRIMARY CARE PROVIDERS RECEIVED THEIR CLINICAL EDUCATION

No medical school or physician assistant education program exists in Wyoming. Nearly 22% of primary care physicians in the state reported they attended medical school in Nebraska, followed by Utah at 11% (see Table 5). The rest of the physicians attended medical school in a wide variety of other states. Wyoming's physician assistants received their clinical education in North Dakota (16%), Utah (12%), Washington (10%), Nebraska (10%), and a variety of other states at smaller percentages.

Physician assistants providing primary care in Wyoming received their clinical education in many different states, with no one state contributing more than 20% of the total. As shown in Table 6, North Dakota, Utah, Washington, Nebraska, Texas and Montana were the sources of clinical education for a majority of Wyoming's physician assistants.

Close to half (46%) of Wyoming's primary care nurse practitioners obtained their nurse practitioner education in-state (see Table 7). Other states from which this workforce obtained advanced nursing education included Colorado and California, among others at smaller percentages.

Wyoming's primary care physicians completed residencies and fellowships in many different states, but the largest percentage (more than 20%) completed a residency in Wyoming (see Table 8).

Table 5: Top States Where Primary Care Physicians Attended Medical School

State	Percent
Nebraska	21.9%
Utah	11.1%
Texas	6.2%
Colorado	5.9%
Missouri	5.9%

Table 6: Top States Where Primary Care Physician Assistants Obtained their Clinical Education

State	Percent
North Dakota	15.6%
Utah	11.7%
Washington	10.4%
Nebraska	10.4%
Texas	7.8%
Montana	7.8%

Table 7: Top States Where Primary Care Nurse Practitioners Obtained their Advanced Nursing Education

State	Percent
Wyoming	45.8%
Colorado	11.5%
California	9.4%

Table 8: States Where Primary Care Physicians Completed Residencies and Fellowships

State	Residency	Fellowship
Wyoming	20.6%	0.0%
Colorado	9.8%	11.9%
California	7.3%	7.1%
Nebraska	5.6%	2.4%
Missouri	3.1%	0.0%
Pennsylvania	3.8%	4.8%
Texas	3.1%	7.1%
Utah	4.2%	0.0%
New York	4.2%	2.4%
Washington	1.7%	9.5%

UTILIZED MEDICAL EDUCATION ASSISTANCE PROGRAMS

The 2006-2007 Wyoming survey of providers asked a series of questions regarding medical education assistance programs. The responses (see Table 9) show relatively low use of these various federal and state programs, except the Wyoming State Contract Medical Education program, (no longer active). The relatively low participation in WWAMI (the Washington, Wyoming, Alaska, Montana and Idaho medical education program affiliated with the University of Washington Medical School) can be explained by the fact that Wyoming began participation in 1997, and it takes approximately 8 to 10 years for a medical student to complete the education program. Therefore, it is too early to measure the full impact of the WWAMI program on the number of primary care physicians who practice in the state. Other federal and state education assistance programs have been used at varying rates by primary care providers in Wyoming. Future surveys of the state's health care providers can be more specific about involvement in some of these programs, and track changes over time.

Table 9: Education Assistance Programs Used by Primary Care Providers

	Physicians	Physician Assistants	Nurse Practitioners
NHSC* loan	3.4%	7.7%	2.7%
NHSC scholar	3.4%	3.1%	NA
WICHE†	8.1%	1.5%	5.4%
WWAMI‡	3.8%	1.5%	NA
Wyoming state loan	2.1%	6.2%	4.5%
Wyoming state contract medical education§	21.3%	NA	NA
Federal scholarship	NA	NA	7.2%
Federal nurse traineeship	NA	NA	5.4%
IHS	NA	NA	5.4%
VA	NA	NA	2.7%
Health care facility	NA	NA	3.6%
Military	NA	NA	4.5%
WUI	NA	NA	0.0%
WYIN	NA	NA	0.0%
USPHS	NA	NA	0.9%

* National Health Service Corp.
† Western Interstate Commission on Higher Education.
‡ Washington, Wyoming, Alaska, Montana, Idaho medical education program.
§ Creighton, Utah.
"NA" is listed if the question was not asked in the questionnaire for the provider type.

KEY SURVEY FINDINGS

Some of the key findings from Wyoming's 2006-2007 survey of health care providers, listed below, should be considered when developing strategies to alleviate shortages of primary care services within the state.

Primary care supply is low in many counties.

- More than two-thirds of Wyoming's counties (15 out of 23) have fewer primary care providers than the national average. Twenty out of 23 Wyoming counties (87%) have fewer than the national average of primary care physicians per 100,000 population.
- Nine counties (Campbell, Carbon, Goshen, Lincoln, Platte, Sweetwater, Uinta, Washakie, and Weston) appear to have major primary care provider shortages, with fewer than 75% of the national average of 126 per 100,000 population.

Primary care provider supply may decline in the next few years.

- Within the next ten years both the physician and nurse practitioner supplies appear likely to decrease significantly due to age-related retirement.

Non-physician clinicians make substantial contributions to primary care supply.

- Non-physician clinicians (physician assistants and nurse practitioners) make up more than one-third of the primary care providers in Wyoming.
- Wyoming's primary care workforce utilizes physician assistants at higher rates than the national average.

Some primary care physicians noted challenges in making referrals and meeting malpractice insurance costs.

- More than one-third of the primary care physicians report not having sufficient access to ancillary and specialty services, and 13% have stopped providing some services due to high malpractice insurance premiums.

Many primary care providers come from Wyoming or other rural areas.

- A majority of primary care providers in Wyoming grew up in a rural area, between a quarter and one-third lived in Wyoming as a child, and a comparable portion obtained their initial post-high school education within the state.

Many primary care providers received their clinical educations in-state (if possible) or from nearby states.

- Forty-six percent of Wyoming's primary care nurse practitioners obtained their clinical education in Wyoming, and the leading states for primary care physician and physician assistant education are nearby Nebraska, Utah, North Dakota and Washington.
- One-fifth of Wyoming's primary care physicians completed residencies in the state.

Federal and state education assistance programs have been utilized by primary care providers.

- The Wyoming State Contract Medical Education program (no longer active) contributed to the training of more than one-fifth of the primary care physicians now practicing in Wyoming. It is too early to measure the full impact of the WWAMI program, which was launched in 1997 and supports up to 17 new medical school students per year, on the number of primary care physicians who practice in the state.
- Other loan, scholarship and traineeship programs have been utilized by primary care providers, at varying rates.

The 2006-2007 data collection effort provided much valuable information for assessing the primary care workforce.

- Improved and ongoing workforce data collection and analyses will further identify factors associated with recruitment and retention of primary care providers, and track workforce trends over time.

OTHER STATES' RESPONSES TO PRIMARY CARE NEEDS

Recent reports from Minnesota, North Dakota, and Massachusetts outline a variety of often-overlapping policy options for improving recruitment and retention of primary care providers in those states:

MINNESOTA

Options for Increasing the Supply of Primary Care Physicians in Rural Minnesota[10]

This report describes actions that the University of Minnesota, the state legislature, and other key stakeholders could take to ensure an adequate primary care workforce for the state. The recommended actions include:

- Increase enrollment in the University of Minnesota medical school, targeting the admission of students who are likely to select primary care practice in rural Minnesota locations (e.g., students who grew up in rural Minnesota, and those who express interest in a family medicine career),
- Provide more opportunities for medical school students to experience rural practice,
- Increase the number of family medicine residency slots in Minnesota, and provide incentives that will increase the number of Minnesota students in them,
- Seek federal funding for alternative models of rural primary care residency programs,

- Increase state funding for medical school loan forgiveness programs for physicians who choose rural primary care practice, and
- Encourage partnerships among regional health care systems, health plans and the academic health center to promote more primary care training program models, new rural delivery models (including team-based models involving physician assistants, nurse practitioners and clinical pharmacists), and more rural primary care preceptorships and residencies.

NORTH DAKOTA

North Dakota Health Care Workforce: Planning Together to Meet Future Health Care Needs[11]

Focusing on the entire health care workforce, this North Dakota report identifies policy goals to:

- Increase K-12 and higher education students' exposure to health care professions,
- Promote rural interdisciplinary health care education programs,
- Seek state support for recruitment strategies (such as tax incentives, loan repayment and scholarships) to attract health care professionals and educators to rural locations, and
- Foster methods to create innovative work environments (such as improving benefits packages, making flexible work schedules, enhancing spouse employment opportunities, promoting clinical faculty and other professional enhancement opportunities) that will help attract and retain providers.

MASSACHUSETTS

Massachusetts Legislation Addresses Primary Care Workforce Issues[12]

A report by the American Association of Family Practitioners describes key features of a law recently passed by the State of Massachusetts to help overcome primary care workforce shortages that have been intensified by that state's recently implemented law requiring all residents to carry health insurance. The primary care workforce law includes:

- A medical home demonstration project,
- Health care workforce center to help address workforce shortages
- A loan forgiveness program for physicians and nurses who practice primary care in medically underserved areas,
- An affordable housing pilot program for health care providers who practice in underserved areas,
- Increases in tuition incentives for University of Massachusetts medical students who agree to practice primary care in the state for four years, and
- Direction to the state payment policy advisory board to explore methods to improve payment for providers of primary care.

POLICY OPTIONS

> "Medical educators and policy makers can have the greatest impact on the supply and retention of rural primary care physicians by developing programs to increase the number of medical school matriculants with background and career plans that make them most likely to pursue these career goals."
>
> Howard K. Rabinowitz, MD, et al., *Journal of the American Medical Association*, 2001[9]

> "Physicians who are prepared to be rural physicians, particularly those who are prepared for small-town living, stay longer in their rural practices. Residency rotations in rural areas are the best educational experiences both to prepare physicians for rural practice and to lengthen the time they stay there."
>
> Donald E. Pathman, MD, et al., *Academic Medicine*, 1999[13]

This report summarizes data from 2006-2007 characterizing the Wyoming primary care workforce—generalist physicians, physician assistants, and nurse practitioners. In some Wyoming counties, the overall supply of primary care providers is slightly lower than other locations in the United States, but in several counties, particularly rural locations, the supply of primary care providers is especially low. Moreover, the aging distribution of the primary care workforce, combined with the current national struggle to train new primary care providers, indicate that the supply of primary care providers in Wyoming may fall to even lower levels over the coming decade—particularly in rural portions of the state.

Several options exist to help ensure an adequate supply of future primary care providers in Wyoming. Some of the key options include the following:

1. Increase the overall number of Wyoming students in the health sciences (especially medical, physician assistants, and nurse practitioner students) through expansion of college program capacity, Wyoming's participation in the WWAMI medical school program, as well as by implementing more programs that emphasize building math and sciences skills among K-12 students and increases their exposure to health science careers.

Many health professions schools in the United States are increasing overall class size to address projected workforce shortages between now and 2020. The state of Wyoming could work closely with its partner health professions schools, such as those in Wyoming, Nebraska, Washington, Utah, and Colorado, to increase the number of Wyoming residents who are matriculating in these programs. The rationale for increasing the number of new students from Wyoming is that health professionals have a relatively high likelihood of establishing practice near their pre-training home. This is especially true for non-physician primary care providers. To increase the pool of candidates for health sciences education, K-12 programs can introduce young students to health care careers at formative ages and instill the importance of math and science skills for educational success.

2. Increase the number of medical, physician assistant and nurse practitioner students from *rural* Wyoming as this group is the most likely to practice in rural locations.

Simply increasing the overall number of Wyoming medical, physician assistant and nurse practitioner students will not adequately address the primary care needs of low-supply counties which tend to be the state's rural locations. Efforts to increase the allocation of Wyoming residents in health professions training programs could be coupled with admissions criteria giving preference to Wyoming residents who have a rural background and an expressed interest in primary care.

3. Expand opportunities for primary care and, in particular, rural experiences during health professions education.

The influence of the duration and type of primary care and rural training experiences on selection of a primary care specialty and rural practice has been well documented for physicians and can lead to a several-fold increase in the placement of graduates in rural practices. Although less well studied, it is reasonable to assume that similar physician assistant and nurse practitioner rural training experiences would similarly bolster the primary care and rural workforce. To make rural primary care experiences a high priority for health professions schools, specific programs with adequate financial resources would be required. Wyoming state and local government as well as private foundations could help provide financial support and encouragement of rural primary care training opportunities in Wyoming locations.

4. Expand the number of family medicine residency slots in Wyoming and create incentives for medical school graduates from WWAMI and other neighboring states to apply to them.

Wyoming currently offers 14 family medicine residency training slots annually (8 in Casper and 6 in Cheyenne). Increasing the total number of slots and locating the residents' outpatient experience in rural settings could help reduce shortages of rural primary care providers. However, funding such programs can be difficult due to the cap on Medicare payments for residencies. Wyoming could target additional state funds for rural primary care residencies. Decisions on the specific residency program(s) that could expand their rural reach might weigh factors such as program match rates, retention of graduates in Wyoming, proportion of graduates who go to rural areas to practice, and the capacity of the sites to expand.

5. Expand funding for loan forgiveness and physician recruitment for primary care and rural practice through the Wyoming Healthcare Professional Loan Repayment Program and the Wyoming Physician Recruitment Grant Program.

State (and national) loan repayment programs positively affect the recruitment and retention of rural primary care physicians. The Wyoming Healthcare Professional Loan Repayment Program currently provides loan repayment for physicians and dentists (up to $90,000 each) and allied health care professionals (up to $30,000 each) who commit to three years of practice in an underserved area in Wyoming. The Wyoming Physician Recruitment Grant Program helps underserved Wyoming communities by providing up to $80,000 to recruit physicians. These programs could be expanded in total funding, and/or the Physician Recruitment Grant Program could be expanded to include non-physician primary care providers.

6. Work with federal, state, and private policymakers to improve the reimbursement of primary care services through Medicaid, Medicare, and private insurance.

Numerous studies have shown that having a greater percentage of primary care providers is associated with better population health outcomes, including reduced mortality. Yet the salaries of primary care providers are considerably lower than that of their specialist counterparts. It is not surprising that many Wyoming counties have a low primary care provider supply when providers are faced with the issues of low salary, increasing amounts of educational debt, and

perceptions that the lifestyle of a rural primary care provider may be difficult. Efforts to address disparities in salary may help solve these problems.

7. Develop and strengthen strategic regional partnerships among health care systems, health plans and communities to address both the recruitment AND retention needs of Wyoming's primary care workforce.

Partnerships with health care systems/hospitals and communities having strong interests in helping to meet the primary care needs of Wyoming could be developed or strengthened. These partnerships could be encouraged to:

- Expand primary care preceptors and training sites,
- Develop alternative primary care training program models, and
- Develop and test new care delivery models, such as the "primary care medical home" (a team-based approach to care typically led by physicians coupled with expanded roles for physician assistants, nurse practitioners, clinical pharmacists and other provider types).

These partnerships could potentially improve providers' satisfaction and commitment to providing care in their communities by developing strategies to:

- Relieve primary care providers from excessive on-call hours,
- Improve providers' access to specialty and ancillary services, and
- Include providers in community health care decision-making.

CONCLUSIONS

These data on the state of the Wyoming primary care workforce from 2006-2007 indicate that concerted efforts are needed to address the primary care needs of Wyoming residents. The options presented are not all-inclusive, but could serve as a starting point for state-level discussion on this urgent issue. No matter which options are ultimately chosen, ongoing data collection would allow stakeholders to track individuals from matriculation in health professions school through post-graduate training (e.g., residency for physicians) to their eventual practice setting. Such a systematic approach to monitoring the primary care workforce allows policy makers to better understand the short- and long-term factors related to entering and staying in primary care practice in Wyoming. In addition, these data could be used to determine areas of the state in greatest need for state assistance, such as through loan repayment and physician recruitment programs.

NOTES

1. Perspective roundtable: redesigning primary care. *N Engl J Med.* 2008; Nov 13:1-10.

2. Twelve of Wyoming's 23 counties are designated as single county Primary Medical Care Health Professional Shortage Areas (HPSAs) because they contain less than one primary care physician per 3,500 population, and seven counties are partial-county or special designation primary care HPSAs (Wyoming Health Care Commission, 2008).

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