Policy Brief

Obstacles to Providing High-Quality Patient Care: Findings from a Survey of Wyoming's Medical Care Providers

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by

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WWAMI CENTER FOR HEALTH WORKFORCE STUDIES

UNIVERSITY OF WASHINGTON
SCHOOL OF MEDICINE
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EXECUTIVE SUMMARY

This report examines obstacles to providing high-quality patient care identified by Wyoming's healthcare providers. As a barometer of the state's healthcare practice climate, the findings can suggest where action may be warranted to address healthcare system vulnerabilities and help guide Wyoming healthcare policies. The Center for Health Workforce Studies at the University of Washington analyzed data from surveys, conducted in 2009, of Wyoming physicians, physician assistants, and advanced practice nurses. This study was conducted for the Wyoming Healthcare Commission.

KEY FINDINGS

Wyoming physicians, physician assistants, and advanced practice nurses responded to the question, **"How much of a problem is each of the following issues with regard to your ability to provide high-quality care?"** Three categories of obstacles were identified, and this discussion of findings focuses on the obstacles that ambulatory care providers, and other types of providers as noted, cited as "major" problems (from the options "not a problem," "minor problem," or "major problem").

Patient Care and Service Delivery Obstacles

The three provider types—physicians, physician assistants, and advanced practice nurses—identified similar patient care and service delivery obstacles as major problems. Between 12% and 43% of ambulatory care providers reported that these obstacles were major problems:

- patients' inability to receive needed care because of inability to pay (significantly more primary care providers than specialists reported this as a major problem),
- rejections of care decisions by insurance companies (particularly problematic for urban providers),
- lack of qualified specialists in the area (particularly problematic for rural providers), and
- not getting timely reports from other providers.

Financial Obstacles

Physicians, physician assistants, and advanced practice nurses frequently cited financial obstacles as major problems, though physicians were most likely to report these problems. Between 15% and 54% of ambulatory care providers reported that these obstacles were major problems:

- high liability insurance rates,
- large increases in non-reimbursable overhead costs (particularly problematic for primary care providers),
- inadequate or slow third-party payment,
- non-paying patients/bad debt, and
- insufficient income (particularly problematic for primary care and solo practice providers).

Professional and Management Obstacles

Physicians, physician assistants, and advanced practice nurses perceived professional and management obstacles as less problematic than patient care and service delivery issues

and financial issues. Between 9% and 23% of ambulatory care providers reported that these obstacles were major problems:

- insufficient time off (particularly problematic for primary care and solo practice providers),
- lack of call coverage (particularly problematic for rural providers), and
- too little involvement in decisions about healthcare in the community (particularly problematic for specialist providers).

POLICY CONSIDERATIONS

When thinking about policy options, it is important to bear in mind that this report focuses on major problems and likely understates the extent to which these problems affect the healthcare workforce.

The most frequently reported obstacles to providing care—economic and patient care burdens, lack of desired input into community healthcare decisions, and lack of robust specialist referral networks—can lead to professional dissatisfaction that ultimately undermines efforts to recruit and retain healthcare providers in the state. In areas where there is inadequate provider supply, the resulting professional isolation compounds the problem. Developing an ample health workforce to provide high-quality patient care depends to a large extent on community economics, which is influenced by factors outside the control of most health policymakers. Targeted policies, however, can help maintain and strengthen the health workforce and patient access to high-quality care. Strategies that could be implemented or expanded in Wyoming include:

Improving Provider Finances

- Provide financial assistance to communities with persistent workforce shortages or to providers facing economic pressures that threaten the viability of their practices.
- Evaluate the limiting of malpractice suit award amounts as an option to reduce liability insurance premiums.

Ensuring Financially and Medically Needy Patients' Access to Care

- Grant malpractice immunity for charity care to encourage providers to give free care to more uninsured or underinsured patients.
- Create new programs or expand existing ones (for example, under Medicaid) that increase the availability and affordability of health insurance.
- At the federal level, advocate for Medicare policies that allow increased reimbursement for targeted areas and populations with limited patient access to care.

Alleviating the Time Squeeze

- Support provider partnerships and shared practice arrangements to give providers more time for direct patient care, allow for a healthy work-life balance, and increase providers' integration into professional communities.

Connecting Providers to Specialist Referral Networks

- Encourage provider partnership arrangements that improve providers' connections to specialist referral networks.

Including Providers in Community Healthcare Decision-Making

- Promote efforts to involve providers in community healthcare decisions that affect their practices. Identifying communities where providers feel well integrated in decision-making, and therefore more satisfied with their professional position, could provide models for other communities.

Expanding the Healthcare Workforce

- Several obstacles that providers reported are related to health workforce shortages and the resulting burden on existing practices. Expanding the healthcare workforce is therefore integral to addressing these problems and will become increasingly important as the Wyoming population ages. Recruiting and retaining more healthcare providers in Wyoming could improve the practice climate. Strategies include continuing and expanding programs requiring service in exchange for education scholarships, grants, or loan repayment; increasing in-state educational capacity; recruiting more health professions students from the most rural areas of the state; and establishing new clinical training opportunities in rural areas.

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INTRODUCTION

A recent report on Wyoming's primary care providers suggests that the state's healthcare workforce is under stress due to provider supply shortages, lack of access to specialty and ancillary services, and high malpractice insurance premiums.[1] Wyoming is a highly rural state, and rural providers are particularly affected by these and other practice challenges, such as low compensation, professional isolation, lack of time off, and insufficient call coverage.[2] With the aging of Wyoming's population, supply shortages can be expected to worsen as healthcare providers retire just as service demands rise from increasing numbers of elderly patients.[3] Providers thus face an interconnected and complex set of obstacles that create problems for health workforce recruitment and retention as well as the delivery of high-quality patient care.

Using new data from surveys of Wyoming's physicians, physician assistants, and advanced practice nurses, this report seeks to answer several questions:

- What are the major obstacles facing Wyoming's medical care providers?
- Which providers are most affected by patient care and service delivery obstacles, financial obstacles, and professional and management obstacles?
- What are the policy implications of this study's findings?

This report identifies ways in which Wyoming's healthcare providers report that they are hampered in providing high-quality care, a barometer of the state's healthcare practice climate. As a starting point for monitoring changes over time, this information can suggest where further action may be warranted to address healthcare system vulnerabilities and help guide Wyoming healthcare workforce policies.

OBSTACLES FACING WYOMING'S MEDICAL PROVIDERS

The findings reported here are based on analyses of surveys of Wyoming's licensed healthcare providers conducted for the Wyoming Healthcare Commission by the Center for Health Workforce Studies at the University of Washington (UW CHWS). UW CHWS developed questionnaires to survey multiple types of providers, including physicians/osteopathic physicians (hereafter referred to as "physicians"), physician assistants, and advanced practice nurses. The Wyoming Survey & Analysis Center (WYSAC) at the University of Wyoming carried out the surveys in early 2009. The response rate for physicians and advanced practice nurses was 56%; for physician assistants, the rate was 62%. Response rates were comparable for licensees with in-state and out-of-state addresses, providing reassurance that the responses are reasonably representative of the total licensed provider population.

The type and number of healthcare professionals overall who responded to the provider surveys, and who reported a primary practice location in Wyoming, are shown in Table 1. All findings are for providers with a primary practice location in Wyoming, with an emphasis on the ambulatory care setting.[4] Additional findings are reported for these provider comparisons: ambulatory versus inpatient care, urban versus rural practice location, primary versus specialty care, and solo versus group practice.[5]

Obstacles facing providers were assessed by asking

> **"How much of a problem is each of the following issues with regard to your ability to provide high-quality care?"**

Response options included "not a problem," "minor problem," "major problem," and "not applicable." All three provider types were asked to rate a set of 18 obstacles related to patient care and service delivery,

finances, and professional and management issues, with 4 additional obstacles unique to particular provider types. The survey questionnaires are available at http://depts.washington.edu/uwchws/questionnaires.html.

FINDINGS

Findings for ambulatory care providers are discussed here and presented in Figures 1, 2, and 3. Detailed findings for all providers are shown in Tables 2, 3, and 4.

Patient Care and Service Delivery Obstacles

The patient care and service delivery obstacles that were seen as major problems were similar across all three types of healthcare professionals providing ambulatory patient care in Wyoming (Figure 1). The financing of patient care emerged as the chief concern, reflected in the top two reported obstacles. The most notable differences between provider types and practice types are described below.

Obstacles for Ambulatory Care Providers

- *Patients' inability to received needed care because of inability to pay.* This was the top patient care obstacle for all three types of ambulatory care providers: 34% to 43% of providers said this was a major problem. Physicians (34%) and advanced practice nurses (43%) in ambulatory care settings were more likely than physicians (24%) and advanced practice nurses (18%) in inpatient settings to cite this obstacle as a major problem.
- *Rejections of care decisions by insurance companies.* This obstacle was a major problem for 28% to 32% of ambulatory care providers. Ambulatory care physicians (32%) were more likely than inpatient physicians (17%) to cite this obstacle as a major problem.
- *Lack of qualified specialists in the area.* This obstacle was a major problem for 22% to 32% of ambulatory care providers. Advanced practice nurses cited this problem more frequently than other providers.
- *Not getting timely reports from other providers.* This obstacle was a major problem for 12% to 18% of ambulatory care providers.
- Ambulatory care physicians also cited as major problems two items related to patient volumes: *heavy patient loads* (16%) and *inadequate time with patients during office visits* (12%).

Obstacles for Rural Providers

- *Lack of qualified specialists in the area.* Rural physicians were more than twice as likely to report this obstacle as a major problem compared with their urban counterparts, 33% versus 15%.

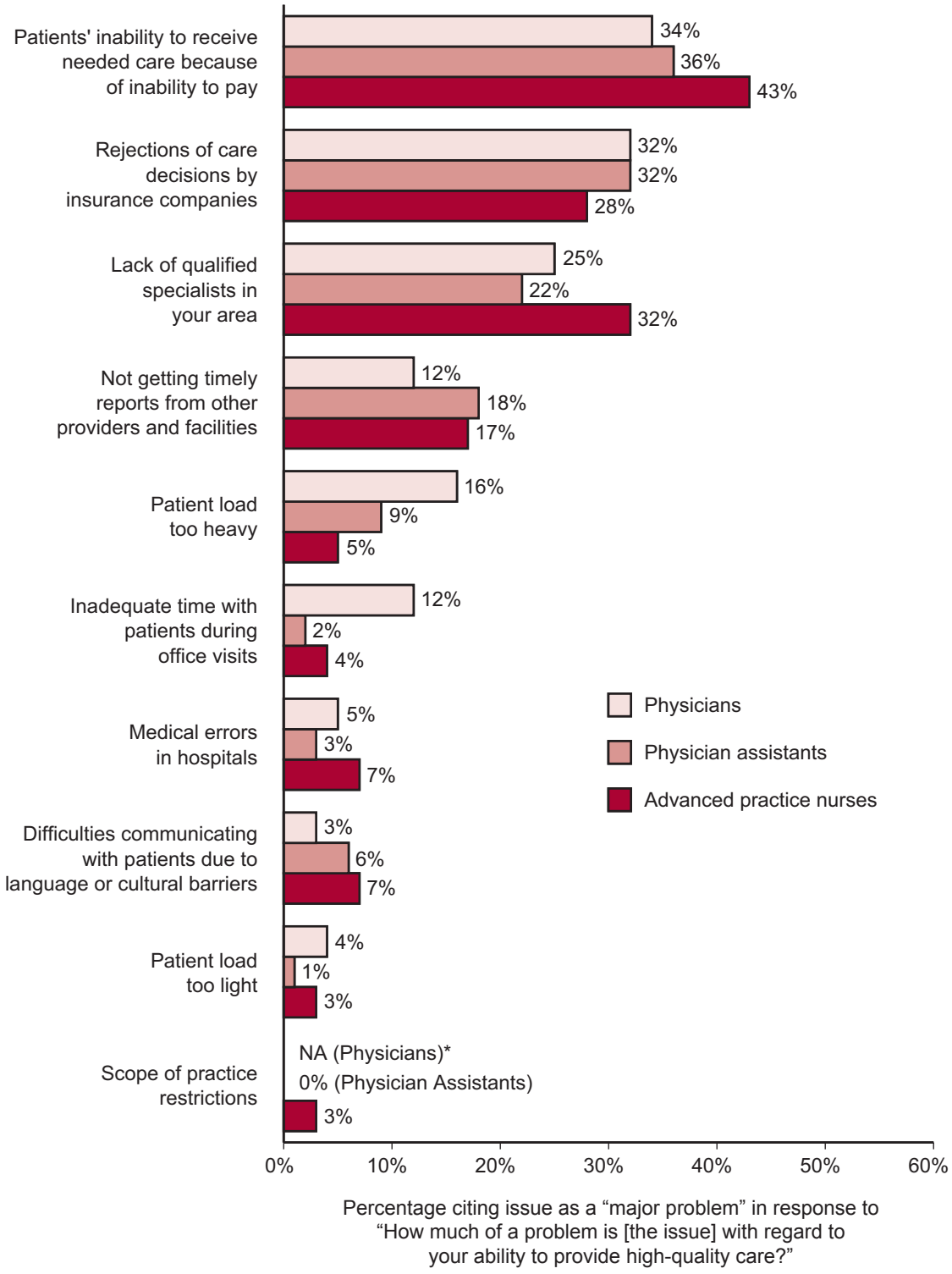
Obstacles for Urban Providers

- *Rejections of care decisions by insurance companies.* Urban advanced practice nurses (37%) cited this obstacle as a major problem about twice as often as rural advanced practice nurses (18%).

Obstacles for Primary Care Providers

- *Patients' inability to receive needed care because of inability to pay.* Half of advanced practice nurses in primary care (50%) cited this obstacle as a major problem, compared with 31% of specialists.
- *Inadequate time with patients* was a particular obstacle for primary care physicians (18%) as opposed to specialists (8%).

Figure 1. Obstacles to Patient Care and Service Delivery for Wyoming Ambulatory Care Providers



* Question not included on questionnaire.

Financial Obstacles

Financial obstacles were frequently cited as major problems by all three types of ambulatory care providers (Figure 2). There were, however, substantial differences: physicians were more likely than physician assistants and advanced practice nurses to say that each of five financial obstacles was a major problem. The most notable differences between provider types and practice types are described below.

Obstacles for Ambulatory Care Providers

- *High liability insurance rates.* Ambulatory care providers differed substantially in their ratings of this obstacle: over half of physicians (54%), just under one-third of physician assistants (30%), and about one-fifth of advanced practice nurses (21%) thought liability insurance rates were a major problem.
- *Large increases in non-reimbursable overhead costs.* Again, there were substantial differences between provider types, 21% to 49% of whom reported that this obstacle was a major problem. Ambulatory care physicians (49%) were much more likely than inpatient physicians (27%) to cite this as a problem. Advanced practice nurses in ambulatory care were also much more likely than their inpatient counterparts to report that overhead costs were a major problem.[6]
- *Inadequate or slow third-party payment.* Ambulatory care physicians (38%) and advanced practice nurses (32%) were more likely than physician assistants (17%) to say this obstacle was a major problem.
- *Non-paying patients/bad debt.* This obstacle was a major problem for 27% to 32% of ambulatory care providers.
- *Insufficient income.* Fewer than 20% (15%-18%) of ambulatory care providers reported insufficient income as a major problem. Among physicians, those in ambulatory care (18%) were more likely than those in inpatient care (6%) to say that this obstacle was a major problem.
- About one in five advanced practice nurses in ambulatory care (21%) reported that *difficulty obtaining recognition as a provider by third-party payers* was a major problem.[7]

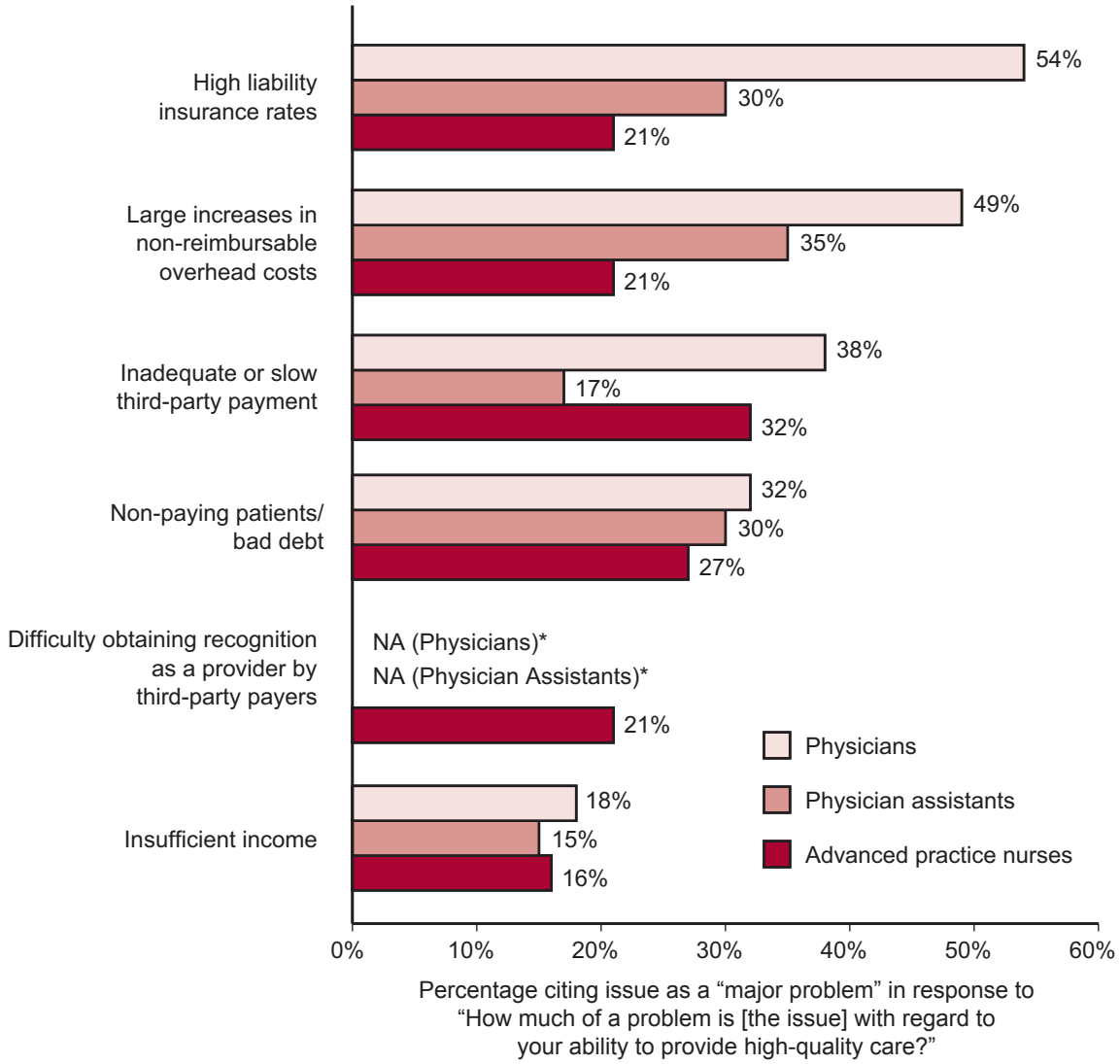
Obstacles for Primary Care Providers

- *Large increases in non-reimbursable overhead costs.* About a quarter (26%) of advanced practice nurses in primary care cited this as a major problem, compared with just 3% of specialists.
- *Insufficient income.* Primary care physicians (18%) were more likely than specialist physicians (12%) to say that this obstacle was a major problem.

Obstacles for Solo Practice Providers

- *Insufficient income.* Solo practice physicians[8] (21%) were more likely than group practice physicians (12%) to say that this obstacle was a major problem.

Figure 2. Financial Obstacles for Wyoming Ambulatory Care Providers



* Question not included on questionnaire.

Professional and Management Obstacles

Professional and management obstacles (Figure 3) were generally less problematic for ambulatory care providers, compared to finances and patient care and service delivery issues. There was some variation among provider types in the top problems reported in this area. Physician assistants were the least likely to cite each of these items as a major problem. The most notable differences between provider types and practice types are described below.

Obstacles for Ambulatory Care Providers

- *Insufficient time off.* This obstacle was a major problem for 16% to 23% of ambulatory care providers.
- *Lack of call coverage.* Lack of call coverage was seen as more of a problem for ambulatory care physicians (23%) and advanced practice nurses (17%) than for physician assistants (9%).
- *Too little involvement in decisions about healthcare in the community.* Advanced practice nurses (21%) and physicians (19%) rated this obstacle as a major problem more frequently than did physician assistants (12%).

Obstacles for Rural Providers

- *Lack of call coverage.* Rural physicians (27%) reported more frequently than urban physicians (17%) that lack of call coverage was a major problem. Physician assistants and advanced practice nurses showed similar rural-urban patterns.[9]

Obstacles for Primary Care Providers

- *Insufficient time off.* Primary care physicians (27%) were more likely than specialists (16%) to say this was a major problem.

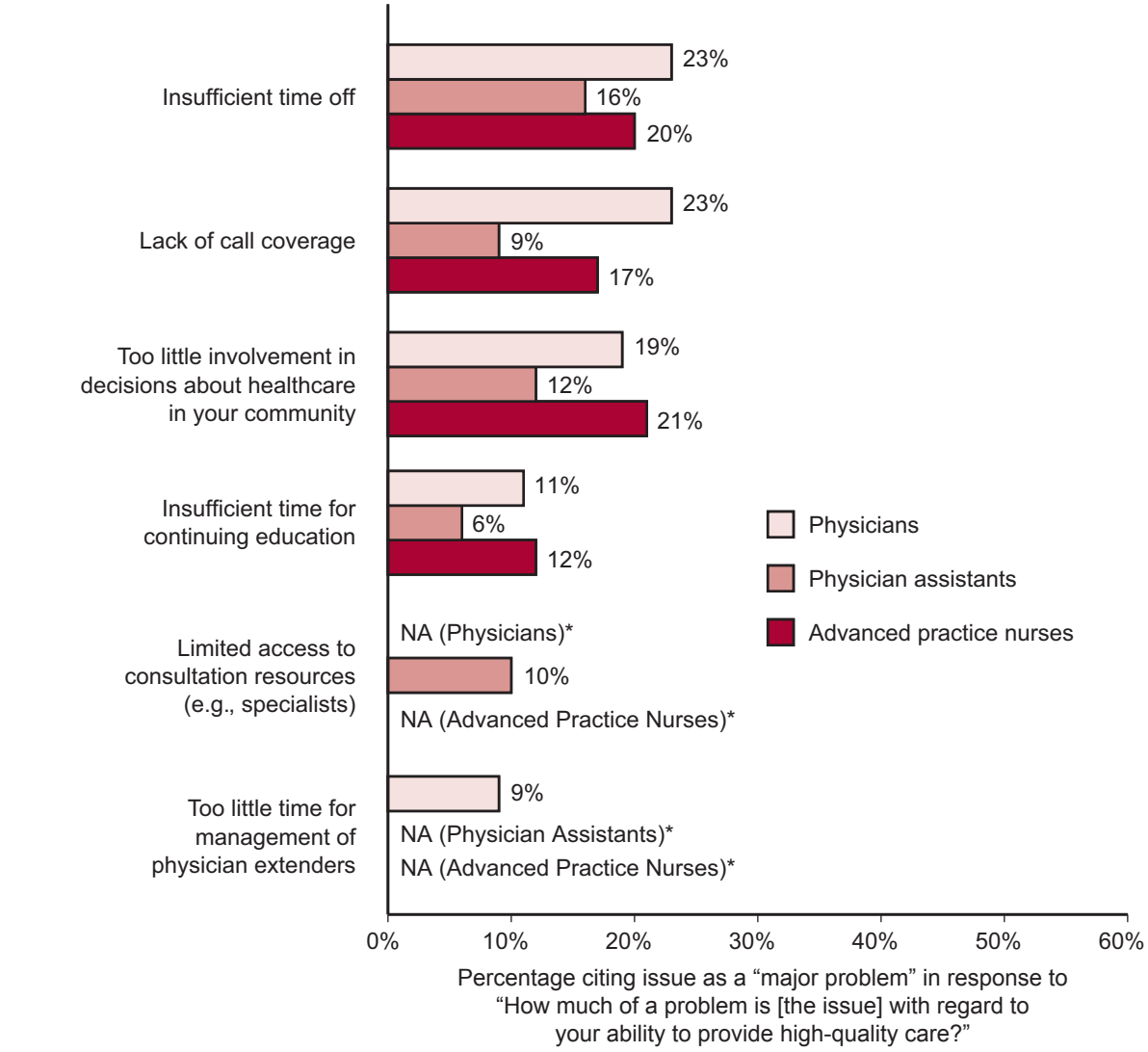
Obstacles for Specialist Providers

- *Too little involvement in decisions about healthcare in the community.* This issue was much more of a problem for specialist physician assistants (21%) than for primary care physician assistants (5%).

Obstacles for Solo Practice Providers

- *Insufficient time off.* Solo practice physician assistants were more than three times as likely as those in group practices to report that insufficient time off was a major problem, 28% versus 8%. A similar difference was seen between advanced practice nurses in solo and group practices.[10]

Figure 3. Professional and Management Obstacles for Wyoming Ambulatory Care Providers



* Question not included on questionnaire.

POLICY CONSIDERATIONS

In choosing to focus on "major" problems, we have purposely excluded problems that Wyoming providers called "minor" from our discussion of the obstacles to providing high-quality patient care. When thinking about policy options, it is important to bear in mind that our conservative reporting strategy likely understates the extent to which these problems affect the healthcare workforce.

Wyoming providers' main challenges revolved around finances, time, and relationships with the local healthcare system. The two greatest obstacles involved providers' and patients' finances: first, practice costs and reimbursement problems; and second, patient poverty and lack of adequate insurance coverage. These problems were especially noted among ambulatory care and primary care providers, and to a lesser extent among solo providers. A third frequently reported set of obstacles involved a time squeeze on providers resulting from patient care responsibilities. This time squeeze, particularly affecting primary care, rural, and solo providers, took several forms, including insufficient time off, a lack of call coverage, and inadequate time with patients. A fourth obstacle for ambulatory care and rural providers was the lack of local qualified specialists. A fifth obstacle, more often mentioned by advanced practice nurses and physicians in ambulatory care, as well as specialist physician assistants, was too little involvement in decisions about healthcare in the community.

These obstacles—economic and patient care burdens, lack of desired input into community healthcare decisions, and lack of robust specialist referral networks—can lead to professional dissatisfaction that ultimately undermines efforts to recruit and retain healthcare providers in the state. Inadequate provider supply in particular geographic areas or in types of healthcare services creates professional isolation that only compounds these problems such that workforce shortages become self-reinforcing. The development of an ample health workforce to provide high-quality patient care depends to some extent on broad-based improvements in state and local economies. These long-term economic factors are to a great extent outside the control of most health policymakers. Targeted near- and intermediate-term policies, however, can also help maintain and strengthen the health workforce and patient access to high-quality care. Here we review policy options—some of which have been implemented in Wyoming in the past and others that have not been attempted—to address workforce obstacles.

IMPROVING PROVIDER FINANCES

Financial incentives, such as increased provider reimbursements or tax credits, can be targeted to assist communities with persistent workforce shortages or providers facing structural or systemic disadvantages that threaten the economic viability of their practices. Meanwhile, high liability insurance rates are seen as a significant financial burden, especially for physicians: a separate report by this study's authors found that 13% of primary care physicians had stopped offering some services due to high insurance premiums.[1] Restricting malpractice suit award amounts is one solution that has been proposed to reduce liability insurance premiums.

ENSURING ACCESS TO CARE FOR FINANCIALLY AND MEDICALLY NEEDY PATIENTS

The above strategies attempt to ensure patient access to care indirectly by enhancing providers' economic viability. But providers were just as concerned about patients' inability to pay for and obtain care. Barring legislation to limit malpractice claims, malpractice immunity for charity care may encourage providers to give free care to more uninsured or underinsured patients. More direct approaches to ensure patient access to care include increasing the availability and affordability of health insurance, including but not limited to expanding Medicaid coverage. Medicare policies could be enacted to allow increased reimbursement for targeted areas and populations with limited patient access to care, a change that would have to occur at the federal level.

ALLEVIATING THE TIME SQUEEZE

Insufficient time off, lack of call coverage, and tight patient scheduling due to local area provider shortages go hand in hand with professional isolation. Establishing provider partnerships and shared practice arrangements may give providers more time for direct patient care, allow for a healthy work-life balance, and increase integration into healthcare professional communities.

CONNECTING PROVIDERS TO SPECIALIST REFERRAL NETWORKS

Having adequate access to specialists is a basic ingredient of high-quality care. Moreover, if specialists are unavailable in some communities, primary care providers are less likely to enter into or remain in practice there. Therefore, policies that support the creation and maintenance of partnership arrangements can improve providers' connections to specialist referral networks and strengthen the overall healthcare system in Wyoming. Such arrangements could include local coordination of the types of insurance accepted by both primary care and specialist providers in a community; linking up smaller or isolated practices

with larger, often hospital-based, referral networks; greater use of traveling or "itinerant" specialists who visit periodically; or regionalized telehealth referrals, when applicable.

INCLUDING PROVIDERS IN COMMUNITY HEALTHCARE DECISION-MAKING

Involving providers in community healthcare decisions that affect their practices improves the quality of decision-making. Identifying communities where providers feel well integrated, and as a result more satisfied with their professional position, could provide models of inclusive decision-making for other communities.

EXPANDING THE HEALTHCARE WORKFORCE

Several obstacles that providers reported are directly or indirectly related to health workforce shortages and the resulting burden on existing practices. Expanding the healthcare workforce is therefore integral to addressing these problems and will become increasingly important as the Wyoming population ages. Primary care provider supply is low in many Wyoming counties, especially rural areas, and shortages are increasingly likely because of provider retirements and increased demand for services.[1] Knowing the principal supply origins for each type of healthcare provider, including both pre-professional and professional education sources, can help the state focus its resources to boost the recruitment and retention of providers most likely to practice in Wyoming. Given that non-physician clinicians provide a large share of rural healthcare,[1] policymakers may wish to focus on advanced practice nurses and physician assistants specifically. Regardless of which providers are targeted, potential incentives include requiring service for education scholarships, grants (e.g., Wyoming Physician Recruitment Grant Program), loan repayment (e.g., Wyoming Healthcare Professional Loan Repayment Program); increasing in-state educational capacity; recruiting more health professions students from the most rural areas of the state; and establishing new clinical training opportunities in rural areas.

NOTES

1. Skillman SM, Andrilla CHA, Doescher MP, Robinson BJ. *Wyoming primary care gaps and policy options.* Final Report #122. Seattle, WA: WWAMI Center for Health Workforce Studies, University of Washington; 2008.

2. WWAMI Rural Health Research Center, University of Washington. *Policy brief: the crisis in rural primary care.* Seattle, WA: Author; 2009.

3. Doescher MP, Fordyce MA, Skillman SM. *Policy brief: the aging of the primary care physician workforce: are rural locations vulnerable?* Seattle, WA: WWAMI Rural Health Research Center, University of Washington; 2009.

4. We urge some caution in interpreting these results because survey respondents may not be fully representative of all Wyoming providers, particularly when results represent small numbers, such as in subgroup analyses. See the Appendix for detailed information on methods and results.

5. Except where noted, only statistically significant differences between proportions are reported for subgroup analyses within provider types, using two-tailed chi-square or Fisher's exact tests as appropriate, at $P < 0.05$.

6. The difference was not quite statistically significant, $P = 0.06$. Twenty-one percent of ambulatory care advanced practice nurses reported overhead cost increases as a major problem, compared to none of those in the inpatient setting.

7. This question was not asked of physicians or physician assistants.

8. Solo practice physicians include one- and two-physician practices.

9. These patterns, however, were not statistically significant.

10. The difference was not quite statistically significant, $P = 0.07$. Thirty-two percent of solo practice advanced practice nurses reported insufficient time off as a major problem, compared with 14% of those in group practices.

Table 1. Provider Survey: Respondents Whose Primary Practice Location Is in Wyoming

	Physicians and Osteopathic Physicians		Physician Assistants		Advanced Practice Nurses	
Hospital (non-federal)	122	(21.7%)	9	(8.3%)	25	(18.9%)
Ambulatory care*	382	(68.1%)	87	(80.6%)	77	(58.3%)
Other†	57	(10.2%)	12	(11.1%)	30	(22.7%)
Valid total	561	(100.0%)	108	(100.0%)	132	(100.0%)
Missing	5		1		4	
Total	566		109		136	

* Includes freestanding and hospital-associated clinics, Federally Qualified Health Centers, Rural Health Clinics, and office practices.
† Includes colleges/universities, state institutions, Veterans Administration and Indian Health Service facilities, health departments, and all other practice settings not included in the non-federal hospital and ambulatory care categories.

Table 2. Patient Care and Service Delivery Problem Issues for All Respondents with a Primary Practice Location in Wyoming

Issue	Provider Type	Not a Problem N (%)	Minor Problem N (%)	Major Problem N (%)	Valid Total N (%)	Missing	Not Applicable	Total
Inadequate time with patients during office visits	Physicians	195 (40.5%)	228 (47.4%)	58 (12.1%)	481 (100.0%)	17	68	566
	Physician assistants	48 (45.7%)	55 (52.4%)	2 (1.9%)	105 (100.0%)	2	2	109
	Advanced practice nurses	54 (46.6%)	57 (49.1%)	5 (4.3%)	116 (100.0%)	5	15	136
Difficulties communicating with patients due to language or cultural barriers	Physicians	315 (61.2%)	187 (36.3%)	13 (2.5%)	515 (100.0%)	22	29	566
	Physician assistants	64 (61.5%)	35 (33.7%)	5 (4.8%)	104 (100.0%)	3	2	109
	Advanced practice nurses	51 (39.5%)	71 (55.0%)	7 (5.4%)	129 (100.0%)	4	3	136
Lack of qualified specialists in your area	Physicians	149 (28.4%)	239 (45.5%)	137 (26.1%)	525 (100.0%)	25	16	566
	Physician assistants	25 (23.4%)	56 (52.3%)	26 (24.3%)	107 (100.0%)	1	1	109
	Advanced practice nurses	37 (28.5%)	57 (43.8%)	36 (27.7%)	130 (100.0%)	2	4	136
Not getting timely reports from other providers and facilities	Physicians	159 (30.2%)	300 (56.9%)	68 (12.9%)	527 (100.0%)	19	20	566
	Physician assistants	28 (26.7%)	58 (55.2%)	19 (18.1%)	105 (100.0%)	2	2	109
	Advanced practice nurses	35 (27.1%)	73 (56.6%)	21 (16.3%)	129 (100.0%)	2	5	136
Rejections of care decisions by insurance companies	Physicians	86 (17.3%)	272 (54.7%)	139 (28.0%)	497 (100.0%)	18	51	566
	Physician assistants	15 (15.8%)	52 (54.7%)	28 (29.5%)	95 (100.0%)	8	6	109
	Advanced practice nurses	27 (24.5%)	56 (50.9%)	27 (24.5%)	110 (100.0%)	3	23	136
Medical errors in hospitals	Physicians	230 (44.6%)	260 (50.4%)	26 (5.0%)	516 (100.0%)	20	30	566
	Physician assistants	46 (50.0%)	43 (46.7%)	3 (3.3%)	92 (100.0%)	2	15	109
	Advanced practice nurses	55 (54.5%)	42 (41.6%)	4 (4.0%)	101 (100.0%)	2	33	136
Patients' inability to receive needed care because of inability to pay	Physicians	120 (23.1%)	239 (46.0%)	161 (31.0%)	520 (100.0%)	16	30	566
	Physician assistants	19 (19.0%)	47 (47.0%)	34 (34.0%)	100 (100.0%)	2	7	109
	Advanced practice nurses	25 (19.8%)	47 (37.3%)	54 (42.9%)	126 (100.0%)	1	9	136
Patient load too heavy	Physicians	237 (44.8%)	208 (39.3%)	84 (15.9%)	529 (100.0%)	13	24	566
	Physician assistants	58 (55.2%)	38 (36.2%)	9 (8.6%)	105 (100.0%)	3	1	109
	Advanced practice nurses	73 (54.5%)	50 (37.3%)	11 (8.2%)	134 (100.0%)	1	1	136
Patient load too light	Physicians	404 (82.3%)	73 (14.9%)	14 (2.9%)	491 (100.0%)	20	55	566
	Physician assistants	84 (83.2%)	16 (15.8%)	1 (1.0%)	101 (100.0%)	2	6	109
	Advanced practice nurses	106 (84.1%)	18 (14.3%)	2 (1.6%)	126 (100.0%)	2	8	136
Scope of practice restrictions	Physicians	NA*	NA*	NA*	NA*	NA*	NA*	NA*
	Physician assistants	86 (82.7%)	18 (17.3%)	0 (0.0%)	104 (100.0%)	1	4	109
	Advanced practice nurses	104 (78.2%)	25 (18.8%)	4 (3.0%)	133 (100.0%)	1	2	136

* Not applicable because this item was not asked of this provider type.

Table 3. Financial Problem Issues for All Respondents with a Primary Practice Location in Wyoming

Issue	Provider Type	Not a Problem N (%)	Minor Problem N (%)	Major Problem N (%)	Valid Total N (%)	Missing	Not Applicable	Total
Insufficient income	Physicians	252 (47.5%)	201 (37.9%)	77 (14.5%)	530 (100.0%)	14	22	566
	Physician assistants	43 (41.3%)	46 (44.2%)	15 (14.4%)	104 (100.0%)	2	3	109
	Advanced practice nurses	59 (45.7%)	52 (40.3%)	18 (14.0%)	129 (100.0%)	2	5	136
Non-paying patients/bad debt	Physicians	96 (19.1%)	253 (50.4%)	153 (30.5%)	502 (100.0%)	17	47	566
	Physician assistants	19 (20.0%)	50 (52.6%)	26 (27.4%)	95 (100.0%)	4	10	109
	Advanced practice nurses	30 (26.5%)	54 (47.8%)	29 (25.7%)	113 (100.0%)	3	20	136
Inadequate or slow third-party payment	Physicians	87 (17.5%)	239 (48.2%)	170 (34.3%)	496 (100.0%)	17	53	566
	Physician assistants	22 (23.7%)	55 (59.1%)	16 (17.2%)	93 (100.0%)	5	11	109
	Advanced practice nurses	23 (20.7%)	59 (53.2%)	29 (26.1%)	111 (100.0%)	5	20	136
Difficulty obtaining recognition as a provider by third-party payers	Physicians	NA*	NA*	NA*	NA*	NA*	NA*	NA*
	Physician assistants	NA*	NA*	NA*	NA*	NA*	NA*	NA*
	Advanced practice nurses	44 (39.3%)	49 (43.8%)	19 (17.0%)	112 (100.0%)	4	20	136
High liability insurance rates	Physicians	90 (18.2%)	157 (31.7%)	248 (50.1%)	495 (100.0%)	20	51	566
	Physician assistants	32 (34.4%)	35 (37.6%)	26 (28.0%)	93 (100.0%)	4	12	109
	Advanced practice nurses	39 (32.2%)	59 (48.8%)	23 (19.0%)	121 (100.0%)	4	11	136
Large increases in non-reimbursable overhead costs	Physicians	96 (20.3%)	177 (37.4%)	200 (42.3%)	473 (100.0%)	22	71	566
	Physician assistants	22 (23.7%)	42 (45.2%)	29 (31.2%)	93 (100.0%)	4	12	109
	Advanced practice nurses	38 (37.3%)	46 (45.1%)	18 (17.6%)	102 (100.0%)	5	29	136
Limited access to consultation resources (e.g., specialists)	Physicians	NA*	NA*	NA*	NA*	NA*	NA*	NA*
	Physician assistants	34 (31.8%)	59 (55.1%)	14 (13.1%)	107 (100.0%)	1	1	109
	Advanced practice nurses	NA*	NA*	NA*	NA*	NA*	NA*	NA*

* Not applicable because this item was not asked of this provider type.

Table 4. Professional and Management Problem Issues for All Respondents with a Primary Practice Location in Wyoming

Issue	Provider Type	Not a Problem N (%)	Minor Problem N (%)	Major Problem N (%)	Valid Total N (%)	Missing	Not Applicable	Total
Too little time for management of physician extenders	Physicians	193 (49.2%)	167 (42.6%)	32 (8.2%)	392 (100.0%)	17	157	566
	Physician assistants	NA*	NA*	NA*	NA*	NA*	NA*	NA*
	Advanced practice nurses	NA*	NA*	NA*	NA*	NA*	NA*	NA*
Insufficient time off	Physicians	219 (42.2%)	193 (37.2%)	107 (20.6%)	519 (100.0%)	19	28	566
	Physician assistants	65 (60.7%)	26 (24.3%)	16 (15.0%)	107 (100.0%)	1	1	109
	Advanced practice nurses	61 (46.6%)	45 (34.4%)	25 (19.1%)	131 (100.0%)	2	3	136
Too little involvement in decisions about healthcare in your community	Physicians	185 (36.2%)	239 (46.8%)	87 (17.0%)	511 (100.0%)	19	36	566
	Physician assistants	43 (43.4%)	43 (43.4%)	13 (13.1%)	99 (100.0%)	2	8	109
	Advanced practice nurses	35 (27.8%)	65 (51.6%)	26 (20.6%)	126 (100.0%)	3	7	136
Lack of call coverage	Physicians	232 (46.5%)	151 (30.3%)	116 (23.2%)	499 (100.0%)	15	52	566
	Physician assistants	57 (64.8%)	24 (27.3%)	7 (8.0%)	88 (100.0%)	1	20	109
	Advanced practice nurses	60 (62.5%)	21 (21.9%)	15 (15.6%)	96 (100.0%)	4	36	136
Insufficient time for continuing education	Physicians	243 (45.6%)	240 (45.0%)	50 (9.4%)	533 (100.0%)	16	17	566
	Physician assistants	54 (50.5%)	47 (43.9%)	6 (5.6%)	107 (100.0%)	1	1	109
	Advanced practice nurses	70 (53.0%)	49 (37.1%)	13 (9.8%)	132 (100.0%)	2	2	136

* Not applicable because this item was not asked of this provider type.

APPENDIX: STUDY METHODS AND SAMPLE CHARACTERISTICS

This appendix presents this study's survey methodology and sample characteristics. For additional information regarding methods and results, please contact the study authors.

The Wyoming Healthcare Commission in 2008 contracted the UW CHWS and WYSAC at the University of Wyoming to carry out surveys of selected licensed healthcare professionals in Wyoming. The UW CHWS developed questionnaires[i] with input from key stakeholders and provided technical assistance for the surveys.

WYSAC surveyed licensed physicians (including osteopathic physicians), physician assistants, and advanced practice nurses from late March through May 2009. Provider lists were obtained from the Wyoming Board of Nursing and the Wyoming Board of Medicine. Providers were sent up to two e-mail invitations and two paper questionnaires, with one reminder phone call to non-respondents. Table A-1 displays response rates by professional type.

Tables A-2 through A-4 summarize responses by provider type for all respondents with a primary practice location in Wyoming according to subgroups of interest.

Table A-1. Response Rates for Wyoming Physicians, Physician Assistants, and Advanced Practice Nurses*

	Physicians and Osteopathic Physicians	Physician Assistants	Advanced Practice Nurses
Total number of surveys sent	2,762	211	382
Undeliverable	81	4	5
Deceased	6	0	0
Total valid	2,675	207	377
Total responses (n)	1,503	128	210
Total responses (%)	56.2%	61.8%	55.7%

* Data set extracted May 8, 2009.

i. These surveys included the Survey of Wyoming Licensed Healthcare Providers: PHYSICIANS AND OSTEOPATHIC PHYSICIANS; Survey of Wyoming Licensed Healthcare Providers: PHYSICIAN ASSISTANTS; and Survey of Wyoming Licensed Healthcare Providers: ADVANCED PRACTICE NURSES. Survey questionnaires are available at http://depts.washington.edu/uwchws/questionnaires.html.

Table A-2. Wyoming Providers by Urban/Rural Primary Practice Location*

	Physicians and Osteopathic Physicians		Physician Assistants		Advanced Practice Nurses	
Urban	222	(39.6%)	38	(35.2%)	50	(37.3%)
Rural	339	(60.4%)	70	(64.8%)	84	(62.7%)
Valid total	561	(100.0%)	108	(100.0%)	134	(100.0%)
Missing	5		1		2	
Total	566		109		136	

* Based on Rural Urban Commuting Area Codes.

Table A-3. Wyoming Providers by Primary/Generalist Versus Specialist Care

	Physicians and Osteopathic Physicians		Physician Assistants		Advanced Practice Nurses	
Primary care*	221	(60.4%)	63	(59.4%)	81	(60.0%)
Specialist care	337	(39.6%)	43	(40.6%)	54	(40.0%)
Valid total	558	(100.0%)	106	(100.0%)	135	(100.0%)
Missing	8		3		1	
Total	566		109		136	

* Primary care physicians and physician assistant specialties include family/general practice, internal medicine, and pediatrics. Advanced practice nurse specialties include adult and family practice, pediatrics, women's health, and school/college health.

Table A-4. Wyoming Providers by Solo Versus Group Practice

	Physicians and Osteopathic Physicians*		Physician Assistants		Advanced Practice Nurses	
Solo	152	(52.2%)	32	(32.7%)	27	(22.7%)
Group	139	(47.8%)	66	(67.3%)	92	(77.3%)
Valid total	291	(100.0%)	98	(100.0%)	119	(100.0%)
Missing	9		9		3	
Not applicable	266		2		14	
Total	566		109		136	

* Physician solo practices include those owned by one or two physicians.

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